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Short-Term Energy Outlook

Quarterly Projections

Fourth Quarter 1996

Energy Information Administration
Office of Energy Markets and End Use
U.S. Department of Energy
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Preface

The Energy Information Administration (EIA) prepares quarterly, short-term energy supply, demand, and price projections for publication in January, April, July, and October in the *Outlook*.

The forecast period for this issue of the *Outlook* extends from the fourth quarter of 1996 through the fourth quarter of 1997. Values for the third quarter of 1996, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in the *Weekly Petroleum Status Report*) or are calculated from model simulations that use the latest exogenous information available (for example, electricity sales and generation are simulated by using actual weather data). The historical energy data, compiled in the fourth quarter 1996 version of the Short-Term Integrated Forecasting System (STIFS) database, are mostly EIA data regularly published in the *Monthly Energy Review*, *Petroleum Supply Monthly*, and other EIA publications. Minor discrepancies between the data in these publications and the historical data in this *Outlook* are due to independent rounding. The STIFS database is archived quarterly and is available from the National Technical Information Service.

The STIFS model is driven principally by three sets of assumptions or inputs: estimates of key macroeconomic variables, world oil price assumptions, and assumptions about the severity of weather. Macroeconomic estimates are produced by DRI/McGraw-Hill but are adjusted by EIA to reflect EIA assumptions about the world price of crude oil, energy product prices, and other assumptions which may affect the macroeconomic outlook. By varying the assumptions, alternative cases are produced by using the Short-Term Integrated Forecasting System (STIFS).

Changes to Macroeconomic Measures

In mid-January 1996, the Bureau of Economic Analysis released its comprehensive revision of the National Income and Product Accounts, which was incorporated into the STIFS model as well as the DRI/McGraw Hill U.S. economic model and forecast. The most important changes are:

1) a shift in emphasis from fixed-weighted to chain-weighted measures of output and prices, the difference being that in chain-weighted GDP, changes in the components of real GDP are valued according to how they compare with other prices today, while in fixed-weighted GDP, changes in the components of real GDP today are valued at the base year's prices;

2) a change in the base year from 1987 to 1992;

3) a new treatment for government expenditures consisting of breaking down the government components of GDP into government consumption and government investment, and adding the services provided by general government fixed assets, such as roads and schools, to government consumption;

4) a change in the way depreciation on physical capital is estimated, from estimates based on straight-line depreciation to estimates based on used equipment and structure prices.

As a result of the re-estimation of GDP growth for 1995 that is based on these new methods, growth was found to be substantially lower than estimated in the last forecast. This is due to reductions in estimated spending growth relating to investment of all types, increased estimates of inflation, as well as the application of the chain-weighted approach to price and real spending aggregation.

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Oil Price to Fall to $19 in Early 1997

A slightly different aspect of this forecast is an element of seasonality embedded into our world oil price forecast. Our current projection assumes that in the mid-price case, world oil prices will fall to $19 dollars per barrel in early 1997, before rising to $20 per barrel by mid-1997. Prices are then assumed to decline to about $18.50 by the end of 1997. This path is generally consistent with the pattern world oil prices have taken since the end of Desert Storm. This forecast assumes an indefinite postponement of Iraqi oil sales.

This Winter Natural Gas Demand to Increase More Slowly Compared with Last Winter's Demand

Winter natural gas demand is projected to increase by only 2.3 percent this year with the return of normal winter weather. Higher utility and industrial demand for gas, indications of rising economic growth, are the major reasons for this growth; residential and commercial demand for gas, which is weather-related, are projected to be lower than last winter's demand.

Low Distillate Stocks, Tight Supplies, Pose Challenge to U.S. Winter Market

Despite projected declines in heating oil requirements, continued growth in diesel fuel demand for transportation is expected to bring about an overall increase in total distillate demand. Beginning of winter stocks are projected to be 19 million barrels below last year's levels, and are projected to peak 7 million barrels below last year's. European stocks are also below last year's. The resultant tightness is expected to bring about higher refinery margins and higher prices than those seen last year.

1997 Total Net Oil Imports Expected to Exceed 1977's Record High

In 1996, declining U.S. crude oil production and higher demand are expected to contribute to an average 8.5 million barrels per day of total petroleum net imports, just below the record imports of 8.6 million barrels per day set in 1977. In 1997, total net imports are projected to exceed 1977's record high imports, equaling 48 percent of total petroleum demand.

Low Summer Cooling Demand Takes Pressure Off Natural Gas Prices

The unusually cool summer weather over much of the nation has helped support large gas injections into storage, rather than being consumed at electric utilities. Working gas storage, while still low by historical standards, is forecast to reach close to last year's level by the beginning of the heating season at current high refill rates.

1996 Electricity Demand Growth to Continue at 1995 Levels; Slowing in 1997

In 1996, total electricity demand is expected to continue to grow at close to the 1995 rate of over 2 percent. This is due mainly to continuing economic growth and the weather-related demand in the first half of the year. In 1997, demand growth is expected to slow due to expectations of relatively slower economic growth and normal weather.

Utility Coal Consumption Rises in 1996, Declines in 1997

As a result of weather-related increases in electricity demand in the first half of 1996, coal use by electric utilities is expected to grow by 2.6 percent. In 1997, utility coal use is expected to be somewhat below the 1996 level due to normal weather.

Table HL1. U.S. Energy Supply and Demand Summary

	Price Case [a]	Year				Annual Percentage Change		
		1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Real Gross Domestic Product (GDP)								
(billion chained 1992 dollars) [b]	Mid	**6604**	**6739**	*6901*	*7039*	**2.0**	*2.4*	*2.0*
Imported Crude Oil Price	Low			*19.46*	*16.04*		*13.5*	*-17.6*
(nominal dollars per barrel)	Mid	**15.52**	**17.15**	*19.90*	*19.18*	**10.5**	*16.0*	*-3.6*
	High			*20.34*	*22.35*		*18.6*	*9.9*
Petroleum Supply								
Crude Oil Production [c]	Low			*6.43*	*6.05*		*-2.0*	*-5.9*
(million barrels per day)	Mid	**6.66**	**6.56**	*6.47*	*6.32*	**-1.5**	*-1.4*	*-2.3*
	High			*6.50*	*6.53*		*-0.9*	*0.5*
Total Petroleum Net Imports (including SPR)	Low			*8.55*	*9.32*		*8.4*	*0.0*
(million barrels per day)	Mid	**8.05**	**7.89**	*8.50*	*8.88*	**-2.0**	*7.7*	*4.5*
	High			*8.46*	*8.54*		*7.2*	*0.9*
Energy Demand								
World Petroleum	Mid	**68.7**	**70.0**	*71.7*	*73.3*	**1.9**	*2.4*	*2.2*
Petroleum	Low			*18.13*	*18.49*		*2.3*	*2.0*
(million barrels per day)	Mid	**17.72**	**17.72**	*18.12*	*18.31*	**0.0**	*2.3*	*1.0*
	High			*18.11*	*18.16*		*2.2*	*0.3*
Natural Gas	Low			*22.06*	*22.56*		*2.8*	*2.3*
(trillion cubic feet)	Mid	**20.75**	**21.46**	*22.07*	*22.64*	**3.4**	*2.8*	*2.6*
	High			*22.07*	*22.67*		*2.8*	*2.7*
Coal								
(million short tons)	Mid	**945**	**959**	*981*	*982*	**1.5**	*2.3*	*0.1*
Electricity (billion kilowatthours)								
Utility Sales [d]	Mid	**2935**	**3009**	*3075*	*3115*	**2.5**	*2.2*	*1.3*
Nonutility Own Use [e]	Mid	**150**	**156**	*160*	*163*	**4.0**	*2.6*	*1.9*
Total	Mid	**3085**	**3165**	*3235*	*3278*	**2.6**	*2.2*	*1.3*
Adjusted Total Energy Demand [f]								
(quadrillion Btu)	Mid	**88.5**	**90.4**	*92.9*	*93.5*	**2.2**	*2.7*	*0.6*
Adjusted Total Energy Demand per Dollar of GDP								
(thousand Btu per 1992 Dollar)	Mid	**13.40**	**13.42**	*13.46*	*13.28*	**0.1**	*0.3*	*-1.3*
Renewable Energy as Percent of Total	Mid	**7.2**	**7.6**	*7.8*	*7.4*			

[a]Refers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

[b]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[c]Includes lease condensate.

[d]Total annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

[e]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

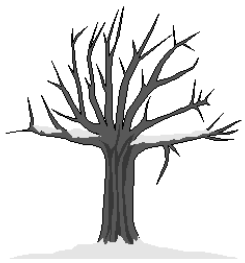
[f]The total energy demand concept shown here is that presented as total consumption in Energy Information Administration, *Annual Energy Review 1994 (AER)*, DOE/EIA-0384(94), Table 1.1. The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review* (*MER*). Consequently, the historical data may not precisely match those published in the *MER* or the *AER*.

SPR: Strategic Petroleum Reserve.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); *Petroleum Supply Monthly*, DOE/EIA-0109(96/08); *Petroleum Supply Annual 1995*, DOE/EIA-0340(95)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/08); *Electric Power Monthly*, DOE/EIA-0226(96/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/4Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

1996-1997 Winter Fuels Outlook



This article summarizes energy demand and supply projections for the upcoming winter season, defined as the period from October 1, 1996, through March 31, 1997. Two projections are provided: the "base-case" scenario consistent with the mid-price projection, which assumes normal weather patterns; and the "severe-weather" case, in which weather--in terms of heating-degree days--during the January-to-March quarter, is assumed to be 10 percent colder than that of the base case. These projections are derived from simulations of the Short-Term Integrated Forecasting System (STIFS) model, which is used to produce the Short-Term Energy Outlook.

The analysis shows that, under assumptions of normal weather, demand for distillate fuel oil is projected to be only slightly greater than that of the previous winter. During the January-to-March quarter, demand is expected to decline from that of the same period last year, during which cold weather boosted heating requirements. Lower-than-average stocks, however, are expected to result in a tighter-than-normal supply situation. In the severe-weather case, demand is projected to be only slightly greater than that observed in the first quarter of 1996. Natural gas demand growth, however, is expected to rise this winter as gas for electricity production and industrial use picks up. Electricity demand growth, which more closely tracks that of the economy than that of the other two fuels, is less sensitive to weather fluctuations. These projections, which are discussed and summarized in

Table WFO1. U.S. Winter Fuels Outlook: Mid World Oil Price Case

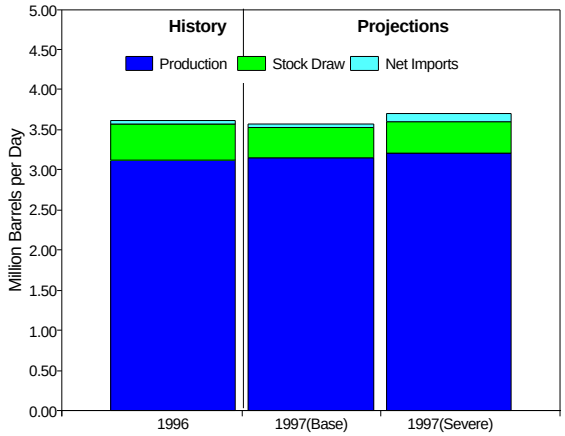
	1995-1996			1996-1997			Percent Change		
	Q4	Q1	Winter	Q4	Q1	Winter	Q4	Q1	Winter
Demand/Supply									
Distillate Fuel (mill. barrels per day)									
Total Demand	**3.262**	**3.616**	**3.440**	*3.326*	*3.588*	*3.458*	*2.0%*	*-0.8%*	*0.5%*
Refinery Output	**3.284**	**3.121**	**3.202**	*3.361*	*3.151*	*3.255*	*2.3%*	*0.9%*	*1.7%*
Net Stock Withdrawal	**0.016**	**0.440**	**0.230**	*-0.117*	*0.373*	*0.129*	*-812.8%*	*-15.2%*	*-43.7%*
Net Imports	**-0.039**	**0.053**	**0.007**	*0.081*	*0.056*	*0.068*	*-310.2%*	*5.9%*	*842.8%*
Refinery Utilization (percent)	**92.0%**	**90.1%**	**91.1%**	*92.4%*	*91.4%*	*91.9%*			
Natural Gas (bill. cubic feet per day)									
Total Demand	**61.52**	**78.48**	**70.05**	*62.01*	*81.19*	*71.65*	*0.8%*	*3.4%*	*2.3%*
Net Domestic Production	**46.80**	**55.34**	**51.09**	*46.40*	*59.48*	*52.98*	*-0.8%*	*7.5%*	*3.7%*
Net Stock Withdrawal	**7.07**	**15.88**	**11.50**	*6.83*	*13.53*	*10.20*	*-3.5%*	*-14.8%*	*-11.4%*
Net Imports	**7.65**	**7.26**	**7.46**	*8.78*	*8.18*	*8.48*	*14.8%*	*12.6%*	*13.7%*
Stocks (ending period)									
Distillate Fuel- Beginning (mmb) [a]	**132**	**130**	**132**	*113*	*124*	*113*	*-14.3%*	*-5.1%*	*-14.3%*
Distillate Fuel- Ending (mmb)	**130**	**90**	**90**	*124*	*89*	*89*	*-5.1%*	*-0.6%*	*-0.6%*
Nat. Gas in Und. Storage- Beginning (bcf) [b]	**7135**	**6492**	**7135**	*6956*	*6334*	*6956*	*-2.5%*	*-2.4%*	*-2.5%*
Nat. Gas in Und. Storage- Ending (bcf)	**6492**	**5030**	**5030**	*6334*	*5090*	*5090*	*-2.4%*	*1.2%*	*1.2%*
Prices									
Imported Crude Oil Price (c/g) [c]	**40.0**	**43.8**	**41.9**	*48.0*	*45.6*	*46.8*	*20.2%*	*4.3%*	*11.9%*
Retail Heating Oil Price (c/g)	**88.6**	**96.2**	**92.6**	*101.8*	*101.3*	*101.5*	*14.8%*	*5.3%*	*9.6%*
Wellhead Gas Price ($/mcf)	**1.77**	**2.02**	**1.90**	*2.05*	*1.92*	*1.98*	*16.1%*	*-4.8%*	*3.9%*
Residential Gas Price ($/mcf)	**5.73**	**5.74**	**5.74**	*6.41*	*5.79*	*6.01*	*11.9%*	*0.8%*	*4.8%*
Market Indicators									
Industrial Output (index, 1987=1.0)	**1.225**	**1.234**	**1.230**	*1.281*	*1.290*	*1.286*	*4.6%*	*4.5%*	*4.5%*
Northeast HDDs [d]	**2207**	**3150**	**5357**	*2089*	*3064*	*5153*	*-5.3%*	*-1.6%*	*-3.2%*
Gas-Weighted HDDs [d]	**1785**	**2501**	**4286**	*1686*	*2426*	*4112*	*-5.5%*	*-1.9%*	*-3.4%*

[a]mmb = million barrels.
[b]bcf = billion cubic feet.
[c]Refiners' acquisition cost for imported crude oil.
[d]Percent changes have been adjusted for leap-year effects.

Notes: NM = percentage changes not particularly informative. Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

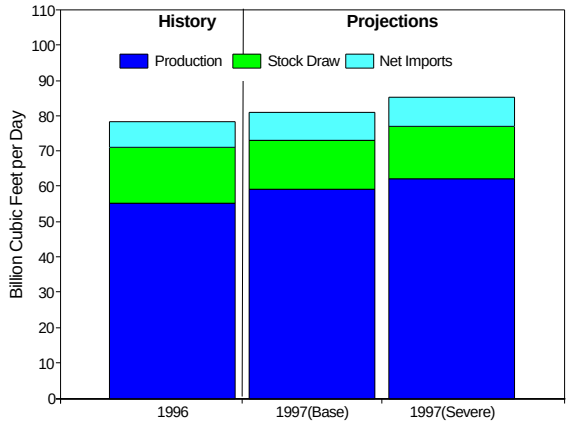
Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/08); *Monthly Energy Review*, DOE/EIA-0035(96/08); Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

Figure 1. Distillate Supply/Demand Balances First Quarter 1997



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 2. Natural Gas Supply/Demand Balances First Quarter 1997



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References section.

Table WFO1 above, assume no weather abnormalities or supply disruptions sufficient to bring about shortages.

The Base Case Outlook

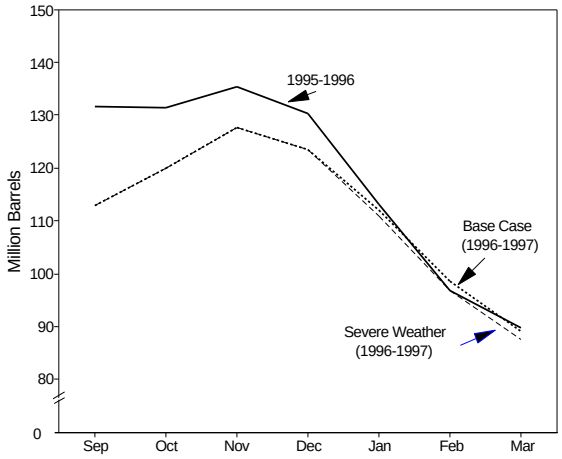
Demand

Demand for distillate fuel oil for the winter as a whole is expected to average 3.46 million barrels per day, up just 0.5 percent from the 3.44 million barrels per day recorded in the previous winter (Figure 1). This projection assumes normal weather, which, in terms of heating-degree days, is projected to be 3.2 percent warmer than that of the previous winter in the Northeastern United States. The effects of warmer weather compared to last year are expected to offset some of the continued growth in the dominant transportation sector in determining total distillate fuel demand. For the January-to-March quarter, the peak heating oil consumption period, demand is actually projected to decline to 3.59 million barrels per day from the record 3.62 million barrels per day for the same period last year. Due to the cold snaps during last year's first quarter, the weather in the same quarter in 1997 is projected to be 1.6 percent warmer (leap year adjusted), contributing to the year-to-year decline in total distillate consumption.

Total winter natural gas demand, which rose by 6.9 percent in 1995-1996 due to the colder than normal temperatures in both fourth quarter 1995 and first quarter 1996, is projected to increase by only 2.3 percent in 1996-1997 with the return of normal winter weather. In first quarter 1997, natural gas requirements are projected to be 81.2 billion cubic feet per day compared to 78.5 billion cubic feet per day during last winter (Figure 2). Higher industrial and utility demand for gas, indications of rising economic growth, and assumed reduction in the availability of hydroelectric power, explain the demand growth in the face of expected milder weather. Residential and commercial demand for gas, which are weather-related, are projected to be lower than last winter's.

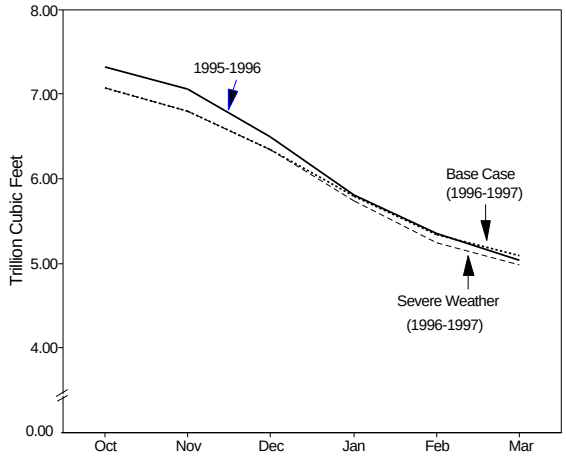
Electricity demand, which grew by 4.0 percent during the 1995-1996 winter, is projected to grow by 1.2 percent in the coming winter under assumptions of normal weather (Table 12). Demand in the weather-sensitive residential and commercial sectors, which increased by a combined 7.4 percent

Figure 3. Distillate Winter Stocks



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 4. Natural Gas Winter Stocks



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References section.

last winter as a result of the very cold weather, is projected to slow to 1.3 percent during this winter.

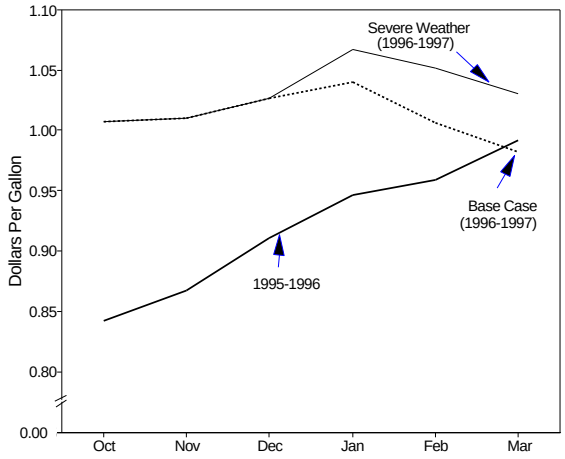
Supply

As year-over-year distillate demand growth for the winter season is projected to be only 18,000 barrels per day, supplies from the three major sources--domestic refinery production, net imports, and primary stocks--should still be able to accommodate winter fuel requirements. This should occur despite current concern about low distillate stocks. Refinery output is projected to average 3.25 million barrels per day, up 53,000 barrels per day from last year's output, triple the increase in projected consumption. During October to December, the peak production quarter, refinery output is projected to be 3.36 million barrels per day, 75,000 barrels per day more than during the same quarter last year. This is brought about by increases in average fourth-quarter refinery capacity (15.36 v. 15.20 million barrels per day) and higher utilization rates (92.4 v. 92.0 percent). Distillate yield is projected to average 22.7 percent, the same as last year's.

Because the refinery production increase is expected to outstrip the increase in projected winter requirements, combined supplies from net imports and primary stocks (197,000 barrels per day) are expected to decline from those of the previous winter (237,000 barrels per day). Beginning-of-season distillate stocks are projected to be 112.8 million barrels, or 19 million below last year's. European stocks are also expected to be lower than normal. During the fourth quarter, net imports are projected to contribute to larger-than-normal stock replenishment, but stocks are still expected to be 7 million barrels below last year's levels. Net imports for the quarter are projected to average 81,000 barrels per day compared to net *exports* of 39,000 barrels per day in 1995. This import swing reflects the projected stock build of 118,000 barrels per day, compared with the slight drawdown observed during the fourth quarter 1995 (Table 6 and Figure 3).

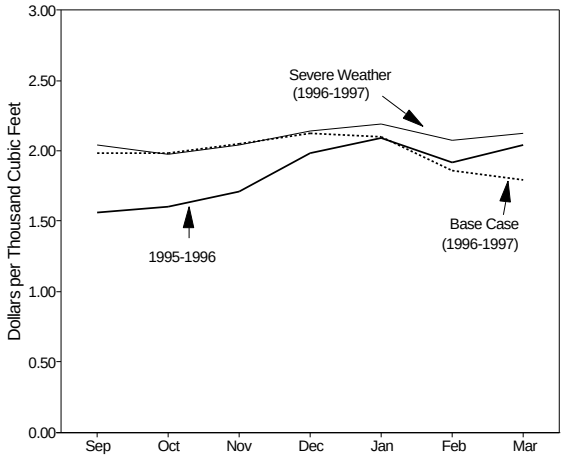
In the first quarter 1997, imports are also projected to meet more of the peak consumption requirements, with stock drawdown playing a slightly lesser role than last year. The average stock drawdown is projected to be 373,000 barrels per day compared with last year's 440,000 barrels per day.

Figure 5. Winter Retail Heating Oil Prices



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 6. Winter Natural Gas Wellhead Prices



Sources: Fourth Quarter 1996 STIFS database, and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References section.

Natural gas supplies are also expected to be sufficient to meet demand. Gas production is expected to contribute an average of 53.0 billion cubic feet per day, up from 51.1 billion cubic feet per day last winter. Stock withdrawals are expected to average 10.2 billion cubic feet per day, well below the 11.5 billion cubic feet per day last winter. End-of season underground stocks are projected to be 5.09 trillion cubic feet, slightly higher than the 5.03 trillion cubic feet recorded at the end of unusually cold first quarter of 1996 (Figure 4).

Net imports are expected to average 8.5 billion cubic feet per day, higher than last heating season's 7.5 billion cubic feet per day, reflecting in part the greater availability of imports and smaller reliance on inventories during normal weather conditions.

Hydropower as a source of electricity generation is projected to fall in first quarter 1997 from its fourth quarter 1966 level, and will be almost 18 percent lower than it was in first quarter 1996, due to assumption of normal water levels (see Table 12). Gas is largely expected to make up the difference for electricity generation.

Prices

In the base case, average retail heating oil prices are expected to be mostly higher than those of the 1995-96 winter season (Figure 5). Lower inventories at the beginning of the heating season this year and higher crude oil costs should keep prices up in the fourth quarter relative to prices in the same period in 1995. Still solid demand levels in the first quarter of 1997 should nevertheless exhibit weak (or negative) growth relative to first quarter 1996 levels. This, combined with lower expected crude oil prices, should ultimately drive retail prices below last year's trajectory. This scenario depends on fairly rapid improvement in the distillate fuel oil inventory situation during the fourth quarter and readily available imported distillate fuel (principally for the East Coast) to achieve it.

Natural gas wellhead prices are projected to average 8 cents higher during the 1996/97 winter than they were during the 1995/96 winter (Figure 6). However, this winter, prices should fall from the fourth to the first quarter, just the opposite of what happened last year, when they rose in the first quarter. Residential retail prices for natural gas are

projected to average $6.01 per thousand cubic feet, compared to $5.74 per thousand cubic feet last year. Most of the impetus for higher prices stems from the relatively lower stock levels through fourth quarter 1996 compared with 1995 levels.

Alternative Weather Scenario

Summary

This scenario assumes that weather, in terms of heating degree days, is 10 percent cooler than normal for the January-to-March quarter. To derive the alternative case, this percentage deviation was proportionally distributed throughout the quarter and applied to both the U.S. and to the Northeast, the prime market for heating oil.

Demand and Supply

Distillate fuel demand for first quarter 1997 would average 3.71 million barrels per day, up 120,000 barrels per day, or 3.3 percent, from the base-case projection, and 2.6 percent from demand during the same period last year. As Table WF02 shows, net imports would average 100,000 barrels per day, up 40,000 barrels per day from the base case to. Refinery production would rise by 60,000 barrels per day, increasing distillate yields slightly from those of the base case, with refinery utilization rates virtually unchanged. The average stock drawdown would increase by only 30,000 barrels per day, resulting in end-of-season stocks of 87.5 million barrels.

Natural gas consumption during the first quarter 1997 could average 85.4 billion cubic feet per day under severe weather conditions compared to 81.2 billion cubic feet per day in the normal weather scenario. The difference would be met mainly by stock withdrawals. Imports, due to pipeline constraints, would not increase. Expected production would average 62.2 billion cubic feet per day, down up the 59.5 billion cubic feet per day in the base case. The expected net stockdraw would increase to 15 billion cubic feet per day, still less than last year's first quarter stockdraw. But stock levels at the end of the winter would not be much higher than they were at last winter's end.

Prices

Severe weather is likely to raise average retail heating oil prices. For the first quarter, 1997, the average price would be $1.05 per gallon compared to $1.01 per gallon in the base case and 96 cents per gallon in the same period last year.

Natural gas wellhead prices would be expected to rise somewhat as greater pressure on the overall supply is felt, and they would be expected to remain above the base case for some months because off-season storage injection rates would have to be increased. For the first quarter, wellhead gas prices could be about 21 cents higher under the 10 percent colder weather scenario than they would be in the base case.

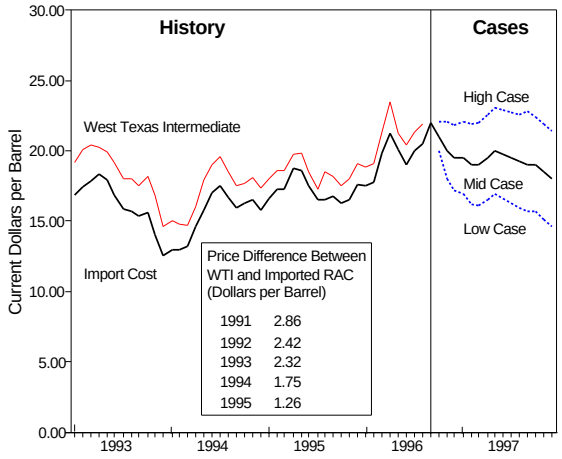
Table WF02. Severe Weather Case Q1 1997

Demand/Supply	
Distillate Fuel (mbpd)[a]	
Total Demand	**3.71**
Refinery Output	**3.21**
Net Stock Withdrawal	**0.40**
Net Imports	**0.10**
Natural Gas (bcfd)[b]	
Total Demand	**85.4**
Net Domestic Production	**62.2**
Net Stock Withdrawal	**15.0**
Net Imports	**8.2**
Prices (average)	
Retail Heating Oil (c/g)[c]	**1.05**
Wellhead Gas Price ($/mcf)[d]	**2.13**
Residential Gas Price ($/mcf)	**5.83**

[a]mbpd = million barrels per day.
[b]bcfd = billion cubic feet per day.
[c]c/g = cents per gallon.
[d]$/mcf = dollars per thousand cubic feet.
Notes: The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

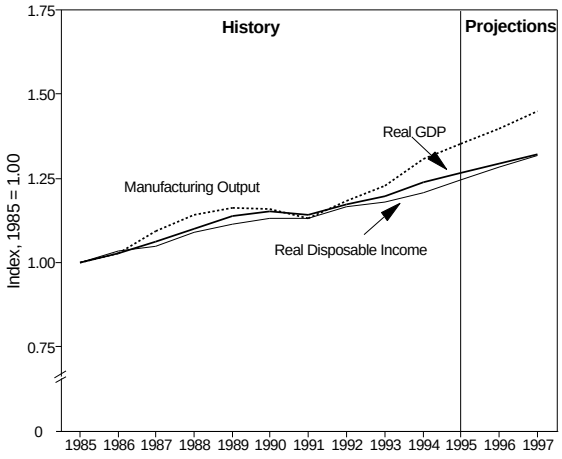
The Outlook

Figure 7. U.S. Monthly Crude Oil Prices



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 8. U.S. Macroeconomic Indicators



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database, U.S. Commerce Department, and Federal Reserve Board. Details provided in Figure References section.

World Oil Prices

- This forecast assumes the status quo concerning the Iraqi humanitarian oil sales approved by the United Nations in August. That is, the assumption is that these oil sales are indefinitely postponed. This development will keep prices in 1996 above 1995 levels, but as world oil production capacity continues to increase through 1997, the impact of this postponement on prices will be mitigated.

- A slightly different aspect of this forecast is an element of seasonality embedded into our world oil price forecast. Our current projection assumes that in the mid-price case, the world oil price will fall to $19 per barrel in early 1997, before rising to $20 per barrel by mid-1997. Prices are then assumed to decline to about $18.50 by the end of 1997 (Figure 7 and Table 4). This pattern is generally consistent with the pattern world oil prices have taken since the end of Desert Storm.

- The high and low price cases illustrated in Figure 7 represent a typical uncertainty range around our base case forecast.

Economic Outlook

- U.S. Gross Domestic Product (GDP) is expected to average 2.4 percent growth in 1996 and 2.0 percent in 1997. Growth in disposable income should reach 2.9 percent in 1996 and 2.7 percent in 1997 (Figure 8 and Table 1).

- Inflation should remain moderate over the next few years. Commodity prices have increased, but only for agricultural products and oil. Consumer price inflation is expected to be 3.0 percent in 1996 and 2.8 percent in 1997.

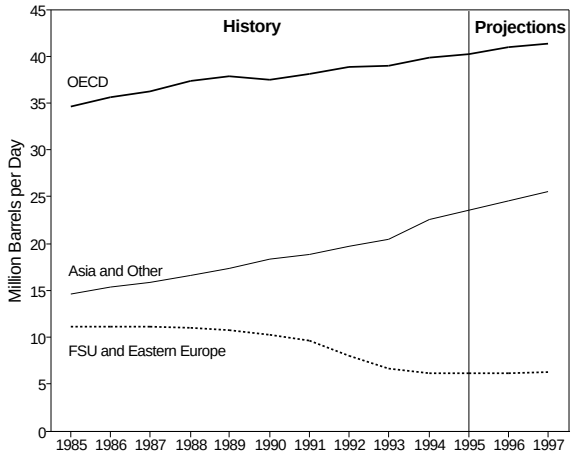
- Manufacturing production growth slows in 1996, reaching 3.1 percent, as investment and export growth slow from their higher 1995 growth. In 1997, manufacturing production growth rebounds, attaining 3.7 percent growth as export growth increases. Total employment will increase over the forecast, but more slowly than it did in 1995.

Weather Assumptions

- Heating and cooling degree-days are assumed to follow historical norms in the forecast period. This results in winter 1996/97 being about 4 percent warmer than last winter (Table 1).

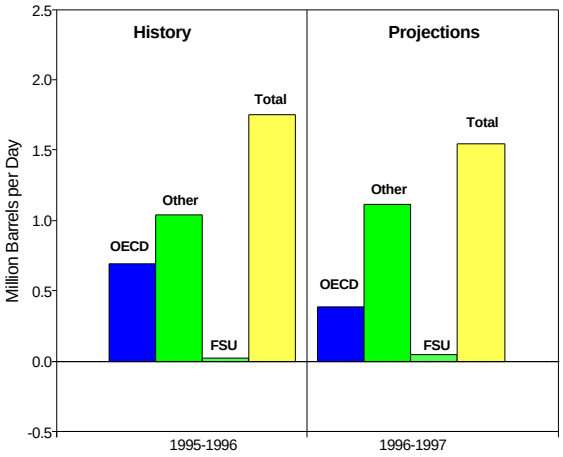
International Oil Demand

Figure 9. World Oil Demand



Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 10. World Oil Demand Changes by Region



Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

- World oil demand continues to increase to record levels. By 1997, total world oil demand may reach 73.3 million barrels per day (Table 3 and Figure 9). All indicators (price, GDP growth, weather) point toward continued annual increments of at least 1.6 million barrels per day worldwide in 1996 and 1997, or an annual average growth of 2.3 percent, compared with the 1.2 percent average growth seen between 1991 and 1995.

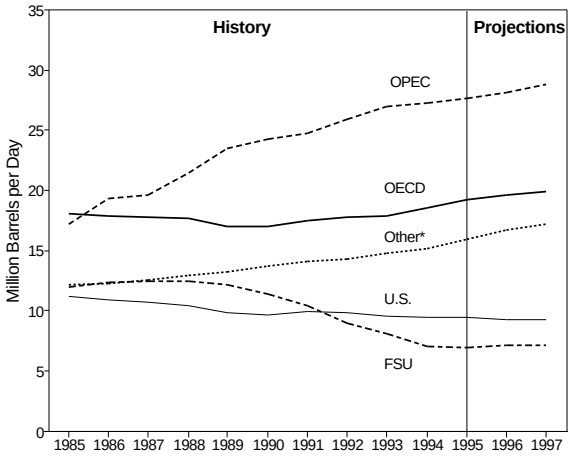
- The 1991-1995 period showed low world oil demand growth because demand was declining significantly in the Former Soviet Union (FSU), offsetting the increases outside the FSU. But excluding the FSU, the growth trend is different: in 1991, world oil demand outside the FSU was 58.4 million barrels per day. By 1997, world oil demand outside the FSU will have grown by 10 million barrels per day to 68.4 million barrels per day, or an annual average rate of increase of 2.7 percent.

- Significantly, oil demand in the FSU is projected to increase in 1996 following years of major declines. This reflects the expectation that economic activity may be positive for the first time in many years. Demand stood at 8.9 million barrels per day in 1988, reached a low of 4.7 million barrels per day in 1995, and is forecast to increase to 4.8 million barrels per day in 1996 and 1997.

- Oil demand in China is expected to increase by 6 percent in both 1996 and 1997, as the government attempts to slow petroleum imports even though the economy is growing at nearly 10 percent annually. Other Asia[1] is expected to increase by about 6.5 percent in 1996 and 1997, as the economies of many of these countries continue to grow by 6 to 10 percent or more each year. In Africa, Latin America[2], and the Middle East, with economic growth between 4 and 5 percent for many of the economies, oil demand is expected to grow by about 2.4 percent in 1996 and 1997.[3]

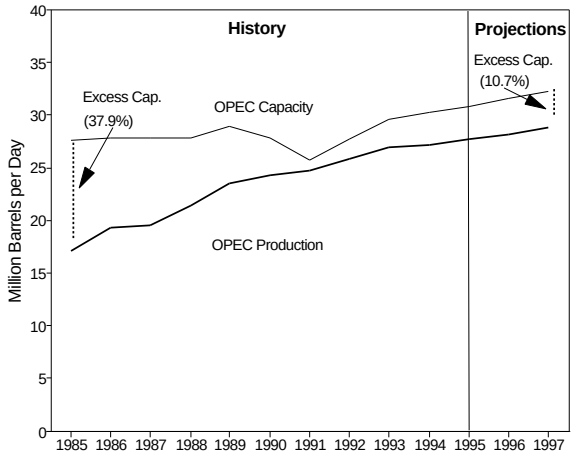
- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to increase by 700,000 barrels per day in 1996 and 400,000 barrels per day in 1997, an annual rate of 1.3 percent (Figure 10). The United States' oil demand growth represents over half of OECD growth.

Figure 11. World Oil Production



*Total-OECD-FSU-OPEC.
Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 12. OPEC Oil Production and Capacity



Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

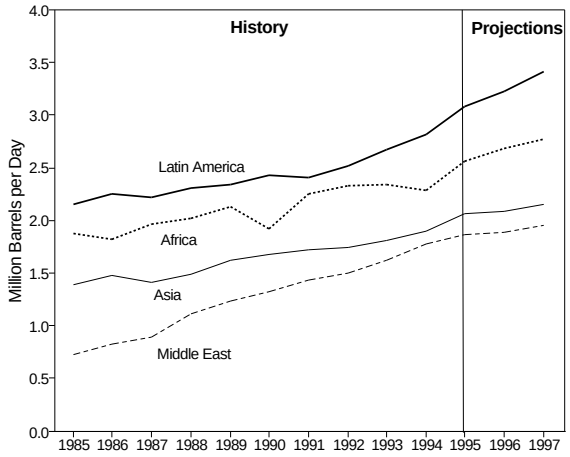
- For this forecast, we have assumed that the Iraqi food-for-oil sales are indefinitely postponed. These oil sales were expected to add about 600,000 barrels per day of oil to the world market, depending on the price of oil. Without this oil, the market should remain tight, but manageable. Additional oil from the North Sea and other non-OPEC countries should provide enough oil for this winter's demand, although a colder than normal winter would greatly increase the likelihood of higher prices, given the little room for error in this year's market. Following the upcoming winter season, increased oil production from non-OPEC and OPEC countries should keep the market precipitously balanced through 1997.

- With no additional Iraqi exports, there will be increased pressure for several OPEC members to increase production in 1997 if capacity expansion plans are realized (Figures 11 and 14). However, no major increases are expected-just a continuation of the production creep of the past several years. Even Saudi Arabia, although sticking to its crude oil production quota of 8 million barrels per day, is realizing increased production from non-crude natural gas liquids and crude oil from the Neutral Zone, both of which are excluded from their OPEC quota.

- Sustained growth of non-OPEC supply is expected to continue for the foreseeable future, both inside and outside of the OECD (Figures 11 and 12). The major growth story within the OECD region is North Sea production, which grew by over 0.4 million barrels per day in 1995 and is expected to increase an additional 0.5 million barrels per day in 1996, although increases in production are expected to be less in 1997. Only 4 million barrels of oil per day was produced in the North Sea as recently as 1991; North Sea oil production is expected to approach 7 million barrels per day by the end of 1997.[4] This tremendous growth has been critical in keeping prices stable, given the high rate of world demand growth.

International Oil Supply

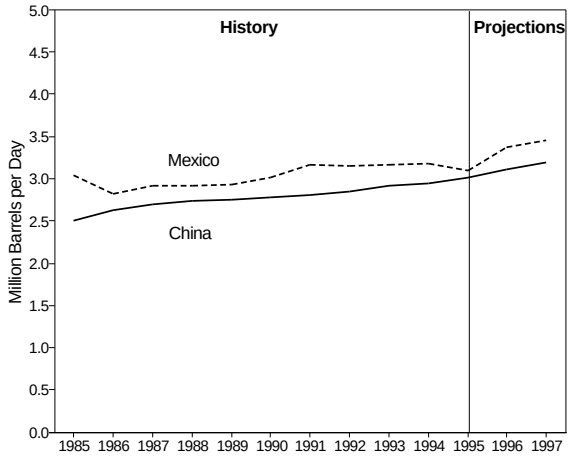
Figure 13. Non-OPEC, Non-OECD Oil Production



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 14. China and Mexico Oil Production



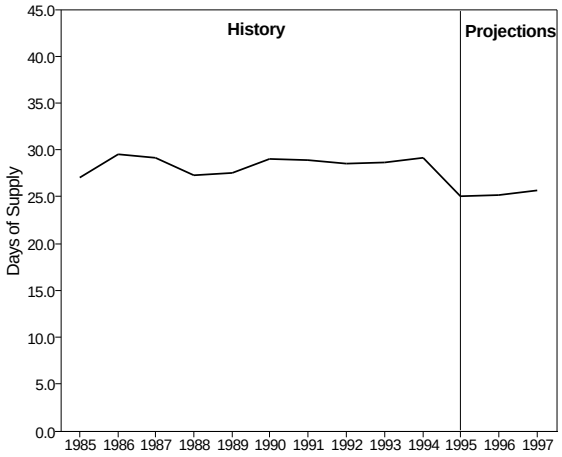
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

- Outside the OECD, the non-OPEC growth story is depicted by the "Other" group in Figure 11. Increments from this group are accelerating due to increases from China and Mexico in 1996 (Figure 14); and from Latin America, Africa, Other Asia, and some slight increases from the Middle East. Figure 13 shows growth from these regions since 1985, most significantly since 1990 following the Iraqi invasion of Kuwait. Privatization efforts are beginning to accelerate growth, particularly from Latin America, which can be hailed as the model of privatization and production-sharing arrangements. Together, the non-OECD, non-OPEC countries (excluding the Former Soviet Union republics) are expected to increase production by over one million barrels per day to 17.2 million barrels per day between 1995 and 1997, up 5 million barrels per day since 1985.

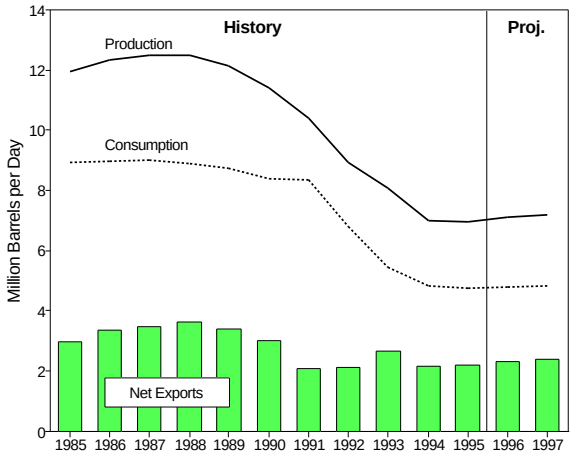
- Joint ventures in the FSU, although growing slowly due to legal problems and export pipeline constraints, are beginning to foster positive supply prospects. Significant near-term increases are most likely to come from Kazakstan, rather than Russia, Azerbaijan, or any of the other former republics.

Figure 15. OECD Commercial Oil Stocks



Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

Figure 16. FSU Oil Output, Demand, and Net Exports



Mid World Oil Price Case
Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section.

- Relative to demand, oil inventories reached their lowest levels in the past decade in the OECD countries during the last winter (Figure 15). There were several reasons for this, including: uncertainty over the timing of Iraqi humanitarian oil sales, colder than normal weather, and low profitability in the refining sector. However, these conditions are not likely to be present in the coming winter. No Iraqi humanitarian oil sales are expected for the forecast period and our forecast assumes a "normal" weather pattern, so that a colder than normal weather is not predicted. In addition, while the profitability of the refining sector may not be terrific, it is expected to be better than last winter. All of these factors add up to a smaller draw on inventories than the historically high levels the market saw last winter.

- Although U.S. crude inventories probably will remain much lower than normal, there should be enough inventory build worldwide to help supply the market this winter, barring a very cold winter. Figure 15 shows days' supply of commercial stocks within the OECD closing at levels higher than last year's at the end of 1996, but lower than those of two years ago. Given this situation, a "prolonged" winter in several regions could be accompanied by price hikes.

- Several OPEC members are expected to continue to expand capacity. Outside Iraq, over one-half million barrels of capacity expansions are expected in OPEC for both 1996 and 1997. Most of the expansion is expected in Saudi Arabia, Kuwait, and Venezuela. OPEC excess production capacity, excluding that of Iraq, is expected to increase to 3.4 million barrels per day in 1996 and 3.5 million barrels per day in 1997. Saudi Arabia controls most of the excess at 2 million barrels per day.

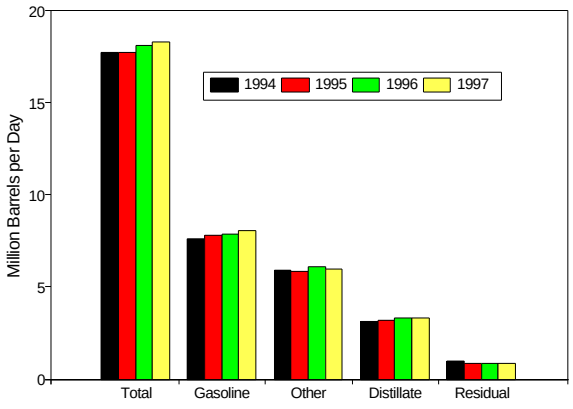
- Exports of crude oil worldwide currently are averaging 32 million barrels per day. About 60 per cent comes from OPEC countries.[5] Saudi Arabia is by far the world's largest exporter, with over 6 million barrels per day of crude exports.

- Net exports from the FSU are expected to slowly increase in 1996 and 1997 (Figure 16 and Table 3). As production begins to increase, consumption is also expected to increase, although at a slower rate than production.

Thus, exports are expected to rise from 2.2 million barrels per day in 1995 to 2.4 million barrels per day in 1997.

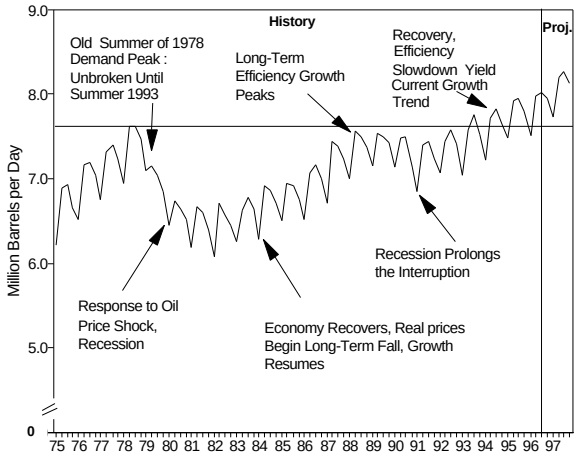
- Exports from the Persian Gulf region are expected to increase only slightly over the next year as regional consumption increases largely offset production increases. In 1995, 18.4 million barrels per day were produced by the Persian Gulf countries, of which the United States imported 1.6 million barrels per day, Japan imported nearly 4.0 million barrels per day, and Western Europe imported almost 3.4 million barrels per day.[6]

Figure 17. U.S. Petroleum Demand



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 18. Quarterly Gasoline Demand



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

- Buoyed by colder-than-normal weather during the first half of this year, petroleum demand is projected to increase by 390,000 barrels per day, or 2.2 percent, in 1996 (Figure 17 and Table 6). First-half estimates of demand growth are 520,000 barrels per day. In 1997, assumptions of normal weather patterns in conjunction with moderating economic growth are expected to result in a 190,000 barrels-per-day, or 1.1 percent, demand increase.

- For the first half of 1996, gasoline demand growth was less than 1 percent. Severe first-quarter weather followed by retail price spikes on the eve of the peak driving season account for much of that weakness. Nonetheless, second-half gasoline demand growth is expected to average 1.4 percent, despite weaker-than-expected summer demand. With overall 1997 demand growth of 2.7 percent, annual average demand should exceed 8 million barrels per day for the first time (Figure 18).

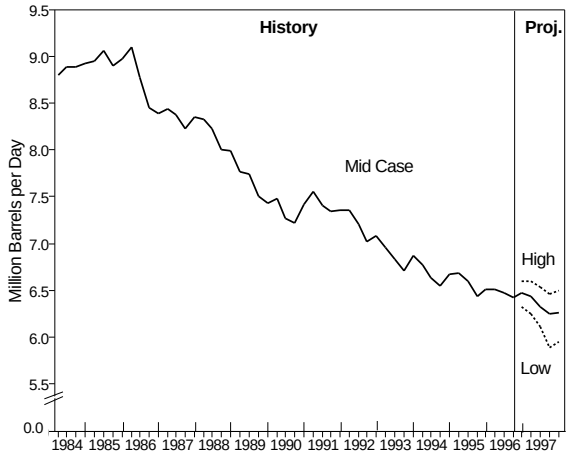
- Jet fuel demand is expected to continue to increase during the forecast at an average rate of 2.5 percent per year. This reflects steady growth in both travel and capacity, which are projected to increase almost 5 percent per year.

- Having grown by more than 4 percent during the first half of 1996 due to severe weather, distillate demand is projected to increase by 2.5 percent during the second half as a result of continued growth in transportation demand, which represents over 60 percent of distillate demand. Assumed normal weather, however, is expected to bring about a slight year-to-year decline in distillate consumption in the first half of 1997.

- Following a weather-related demand increase during the first quarter of 1996, residual fuel oil demand has remained weak since the second quarter. The oil price spike during the second quarter contributed to the recent demand slide. For the rest of the forecast period, however, demand is expected to increase only slightly from currently low levels.

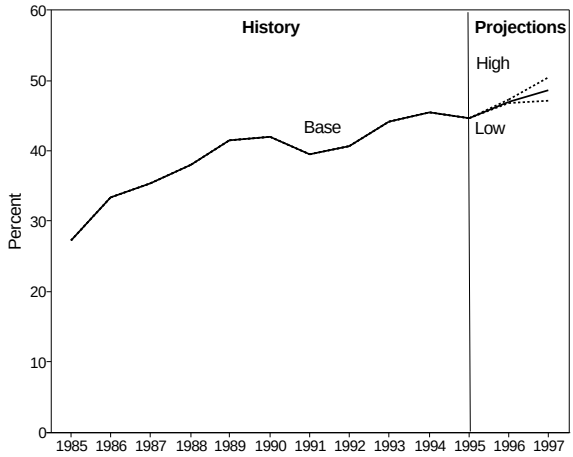
U.S. Oil Supply

Figure 19. U.S. Crude Oil Production



Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section.

Figure 20. U.S. Net Petroleum Imports



Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

- At mid-case prices, total U.S. domestic crude oil production is expected to decline by 90,000 barrels per day, or 1.3 percent, in 1996, and by an additional 150,000 barrels per day, or 2.3 percent, in 1997 (Table 6 and Figure 19).

- In 1996, declining U.S. crude oil production and higher demand are expected to contribute to an average 8.5 million barrels per day of total petroleum net imports, just below the record 8.6 million barrels per day set in 1977. In 1997, total net imports are projected to exceed 1977's record high, equaling 49 percent of total petroleum demand in the base case (Figure 20). In the low-to-high price ranges, the net import share of demand could range between 47 and 51 percent (Tables 5 and 7).

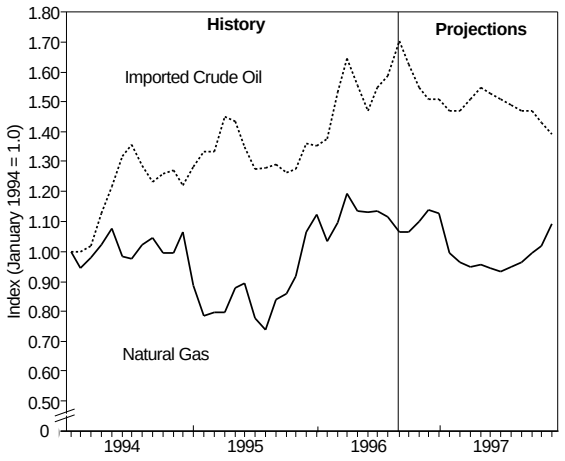
- Oil production in the lower 48 States is expected to increase by 11,000 barrels per day in 1996 and then decline by 55,000 barrels per day in 1997. New oil production from the Federal Offshore fields is expected to account for about 6.1 percent of lower-48 oil production by the end of 1997, if development and production from new projects occur as scheduled.[7] In the Federal waters of the Gulf of Mexico, Auger Field production increased to 70,000 barrels per day in 1996 due to installation of new production facilities. Mars Field production started in August 1996 and is expected to peak at 100,000 barrels per day in early 1997. The Ram-Powell Field is expected to start in the last quarter of 1997 and peak later at a rate of 60,000 barrels per day. The Santa Ynez field, Federal offshore California, is currently producing at 122,000 barrels per day.[8]

- Oil production in Alaska is expected to decline by 6.2 percent in 1996 and by another 7.1 percent in 1997. Production from recent discoveries will partially offset the expected production decline from the giant Prudhoe Bay and other North Slope fields.[9]

- Crude oil production could be as high as 6.6 million barrels per day by the fourth quarter of 1996, given the high price case (Table 7), or in 1997 as low as 6.0 million barrels per day under the low price scenario (Table 5).

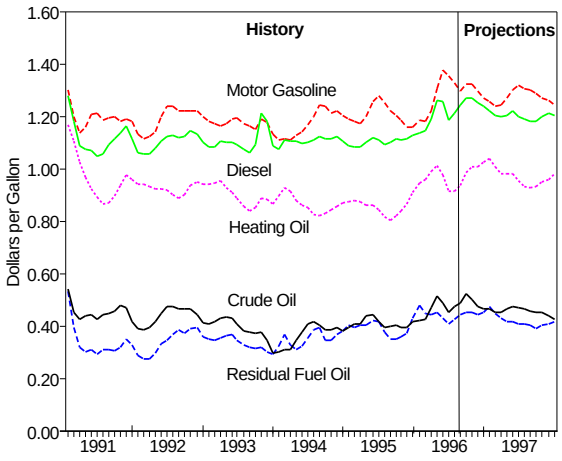
- According to Baker Hughes, Inc., the rig count for 1995 averaged 724. The rig count is expected to increase to an average of 789 in 1996, with a further increase to 882 in 1997.[10]

Figure 21. U.S. Oil and Gas Prices



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 22. Petroleum Product Prices



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

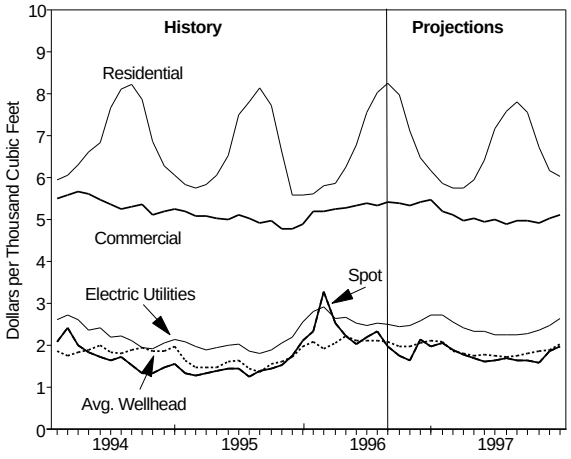
- Low world oil stocks and high world oil demand have caused crude oil prices to rise through the first half of the year. The suspension of implementation of the United Nations sanctioned sale of Iraqi oil and the accompanying political tension, which led to a jittery spot market, have moved world oil prices to nearly $21.00 per barrel in the third quarter of this year. Prices are expected to drop to about $19 per barrel by early in the first quarter of 1997 as the situation becomes more stable and as worldwide production meets demand. Prices are assumed to peak in 1997 at $19.75 per barrel in the second quarter as winter heating demand leaves stocks low while transportation demand pressures grow in the spring. If this pattern holds, as it has in the past several years, prices should edge downward in third and fourth quarter 1997 as U.S. transportation demand subsides from its summertime peak (Figure 21). This projected price is based on the assumption that production increases from non-OPEC producers will keep a ceiling on prices (Table 4 and "Outlook Assumptions").

- All retail petroleum product prices will show increases in 1996, due to the projected 16 percent rise in crude oil prices. Motor gasoline, diesel fuel oil, and residential heating oil prices should each gain about 8-12 cents per gallon in 1996 as higher crude oil prices join with rejuvenated margins which had plummeted in 1995 (Table 4 and Figure 22). Residual fuel prices will follow the crude oil price path with seasonal variations. In 1997, the prices for most of these fuels should drop slightly as the average annual price of crude oil drops by about 60 cents per barrel.

- Retail motor gasoline prices (an average of all types, all services) had been falling steadily since they hit their peak in May. However, the unanticipated crude oil price rise in the third quarter has slowed the expected price easing at the pump. Fourth quarter 1996 prices are expected to average 5 cents per gallon less than prices during the second quarter of this year. Pump prices should continue their fall through the first quarter of 1997. However, the same combination of factors that caused gasoline prices to jump in the second quarter in the previous two years is expected to be repeated, but on a smaller scale, in 1997. In both 1995 and 1996, low crude oil and gasoline stocks entering into the driving season resulted in

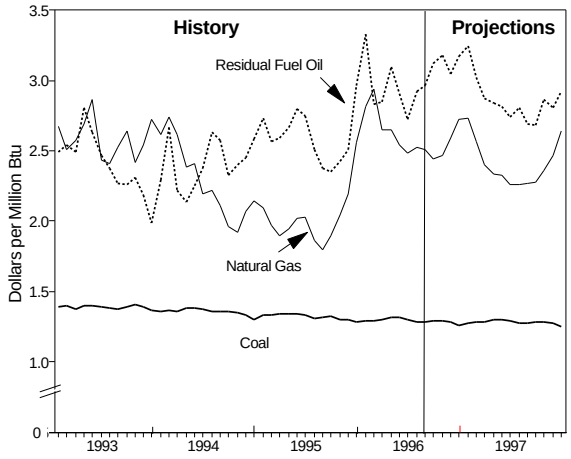
U.S. Energy Prices

Figure 23. Natural Gas Prices by Sector



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 24. Fossil Fuel Prices to Electric Utilities



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

significant price run-ups in April and May. Next year the pump price is expected to increase by about 5 cents per gallon from the first quarter to the second quarter.

- Residential heating oil prices exhibited an anomalous second quarter price spike this year due to high crude oil prices, then fell through the third quarter along with crude costs. Normal seasonal heating patterns combined with higher crude prices and low distillate stocks compared to last year's should bring up the price to slightly over $1 per gallon in the winter of 1996/97--a 9 cent gain over last winter's, assuming normal weather. A severe winter could affect prices adversely. (See the 1996-1997 U.S. Winter Fuels Outlook section, page 3, for more details). On the other hand, a mild winter would ease prices.

- The unusually cool summer weather that much of the nation experienced has helped storage buildup. Underground storage levels were at historically low levels going into the injection season. Heavy demands on electric utilities for cooling could have left inventories precariously depressed going into the heating season. However, the cool summer has permitted needed gas injections into storage, rather than being diverted to utilities.

- The average natural gas wellhead price in 1996 is expected to increase by 30 percent over 1995 levels as inventories are lower than in 1995 (Table 4 and Figure 23). Wellhead prices are expected to moderate in the winter, averaging about $2.00 per thousand cubic feet during the next heating season.

- In 1997, the average wellhead price is expected to decline by 22 cents per thousand cubic feet as normal winter weather, continued market efficiencies, and increased domestic production capability offset rising demand. These changes in the wellhead price are expected to put some downward pressure on end-user prices, particularly for electric utilities and industrial customers (Figure 24).

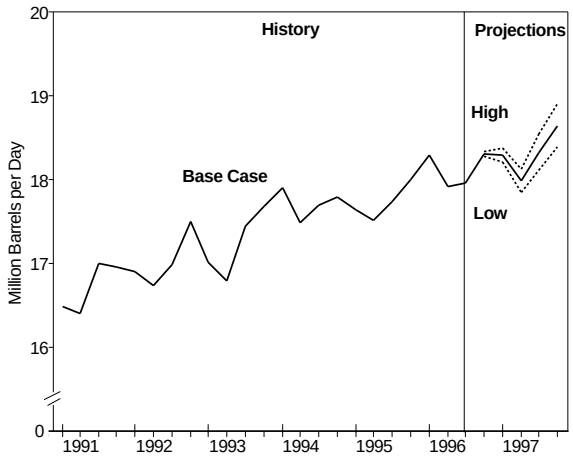
- In 1995, natural gas prices to electric utilities were, on average, about 76 percent of the residual fuel price (Table 4). Gas prices will rise to 86 percent of the residual fuel oil price in 1996. This ratio is projected to dip to 83 percent in 1997.

- Coal prices to electric utilities fell in 1995 to their lowest level since 1979[11] and are expected to continue to decrease through 1997 (Table 4 and Figure 24). Continued gains in mining productivity have resulted in a downward trend for coal prices. The expected increases in prices that were to come about as a result of the Clean Air Act of 1990 never materialized because they were more than offset by productivity gains.

- Annual average residential electricity prices are projected to fall in 1996 and 1997 as a result of moderate costs for capital, labor capital, and fossil fuels. Also, generation from non-utility producers and increased conservation efforts have reduced the need to build expensive new power plants.

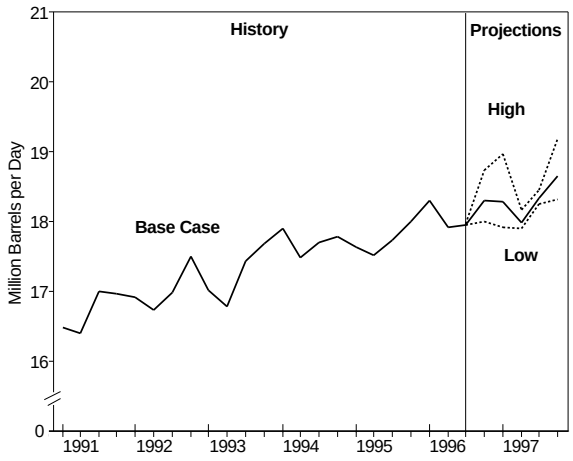
U.S. Oil Demand and Supply Sensitivities

Figure 25. Total Petroleum Demand: Macro Cases



Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 26. Total Petroleum Demand: Weather Cases



Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 2.4 and 2 percent per year in 1996 and 1997. To enhance the usefulness of the mid-case forecast, ranges of possible outcomes for petroleum demand and supply, using alternative macroeconomic, price, and weather assumptions, are also derived (Tables 5 and 7). Plausible macroeconomic and weather-related petroleum demand cases are illustrated in Figures 25 and 26.

- The petroleum price sensitivity assumes that nonpetroleum prices remain constant. The weather sensitivities assume deviations above and below normal that correspond to one-half of the largest quarterly deviations from normal in heating and cooling degree-days over the last 15 years (see Appendix).

- A 1-percent increase in real GDP raises petroleum demand by about 108,000 barrels per day. The impact of shifts in economic growth varies depending upon distribution of incremental growth across energy-intensive and non-energy-intensive sectors (Table 8).

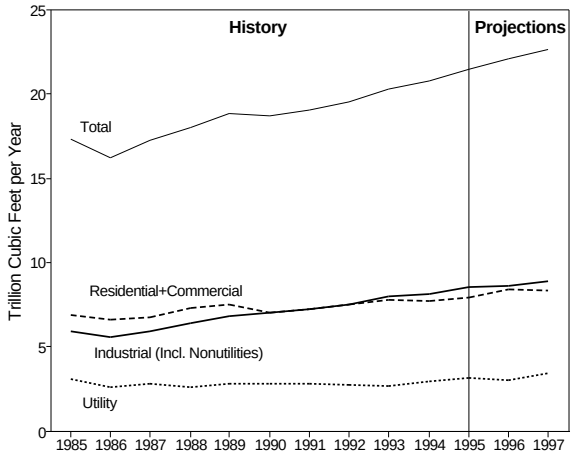
- A $1-per-barrel increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces demand by about 47,000 barrels per day (Tables 8 and 9).

- A $1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 87,000 barrels per day.

- A 1-percent increase in heating degree-days increases demand by about 23,000 barrels per day. The impact of heating degree-day deviations from normal is not likely to be symmetrical. Extremely cold weather could result in indirect effects on fuel oil markets due to potential natural gas supply constraints that have no counterparts in the case of mild weather.

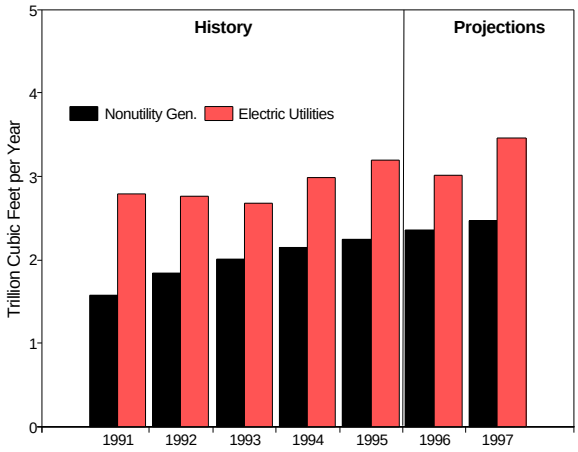
- A 1-percent increase in cooling degree-days increases petroleum demand by about 7,000 barrels per day. (See Appendix for sensitivity calculation methodology.)

Figure 27. U.S. Natural Gas Demand Trends



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 28. Natural Gas Demand for Power Generation



Mid World Oil Price Case
Note: "All Other" denotes residential and commercial demand.
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

- Weather factors, together with continued economic growth, are expected to help raise total annual natural gas demand in 1996 and 1997 to its highest levels since 1973.[12] In 1996, a high of 22.0 trillion cubic feet is expected, as demand grows by 2.6 percent, led by growth in the residential and commercial sectors (Figure 27 and Table 10). In 1997, natural gas demand is expected to rise by an additional 2.8 percent led by growth in the utility and industrial sectors.

- In 1996, due mainly to the unusually cold winter weather in the first quarter, residential demand is expected to be up by 6.8 percent for the year. It is assumed that normal weather in 1997 will result in slower growth in residential gas demand compared with high 1996 levels.

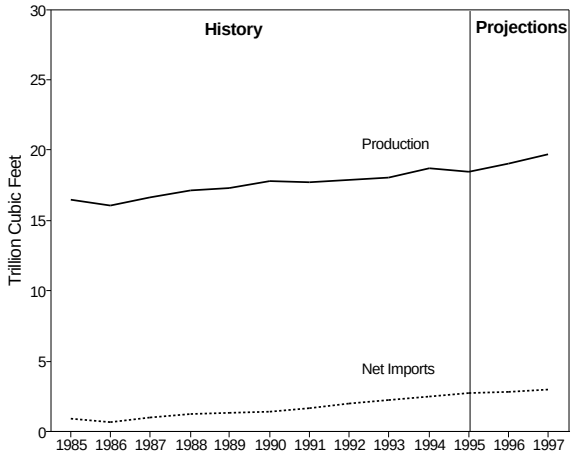
- Industrial gas demand in 1996 is expected to grow by 1.6 percent, compared with the higher 1995 level of 4.0 percent, despite the rise in economic growth. Since this sector has the capability to switch energy sources, higher gas prices probably explain the somewhat slower rate of gas demand growth. In 1997, industrial gas demand is expected to grow by 2.9 percent due to the expectations of lower gas prices as well as continued economic growth and rising manufacturing production.

- Growth in gas consumption for utility power generation is expected to be negative in 1996 (Figure 28), downshifting from the relatively rapid 7.0 percent rate of 1995, as a result of both slower electricity demand growth, increased availability of hydropower for electricity generation and higher gas prices. In 1997, gas used for electricity generation should increase along with electricity demand and as hydropower fades as an incremental supply source (Tables 10 and 12).

- Commercial sector demand, which posted a healthy increase of 4.8 percent in 1995, is expected to continue to rise by 7.6 percent in 1996 due mainly to high heating demand in the first quarter. In 1997, growth is expected to be flat, as weather is assumed to be normal.

U.S. Natural Gas Supply

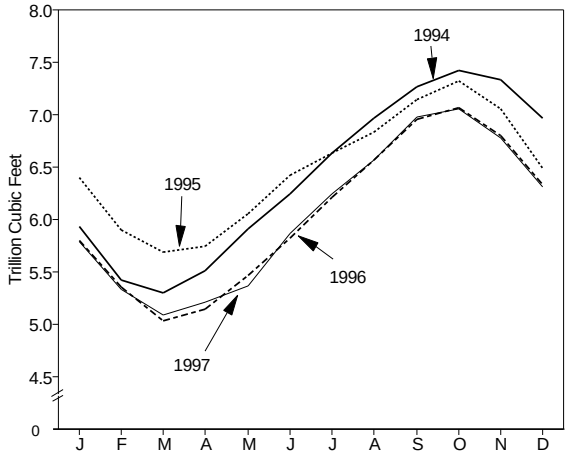
Figure 29. U.S. Dry Gas Production and Net Imports



Mid World Oil Price Case

Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section.

Figure 30. Total Gas in Underground Storage



Mid World Oil Price Case

Sources: Fourth Quarter 1995 STIFS database. Details provided in Figure References Section.

- U.S. dry gas production in 1995 was lower than previously estimated, falling by 1.5 percent relative to 1994 production. Dry gas production is expected to increase through the forecast period, due to higher wellhead prices as well as the expected growth in natural gas demand. Because of the need for gas storage refill this year and the low growth of last year, 1996 growth in U.S. dry gas production is expected to be higher by 3.3 percent. In 1997, due to expected demand growth of 2.6 percent and lack of spare import pipeline capacity from Canada, domestic output is expected to rise by a further 3.3 percent (Figure 29 and Table 10).

- Overall gas storage at the beginning of the heating season (November 1) is expected to lag the average level for the previous 5 years (Figure 30). However, it is expected that storage in the key northeastern consuming region, where 60 percent of U.S. storage is located, will almost reach last year's level.

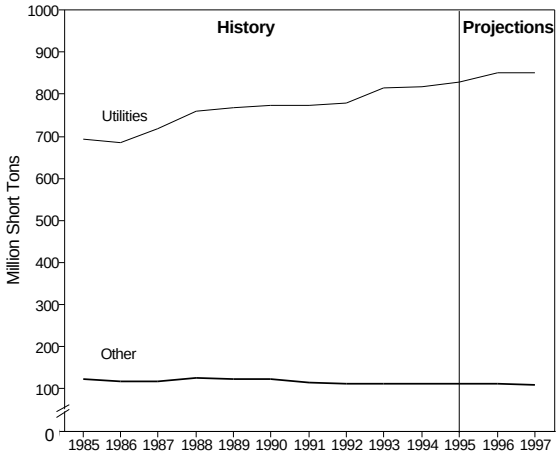
- New methods of managing storage resources may lead to more efficient and economical service for customers and thus lower requirements for storage gas.[13] This includes use of salt cavern storage and marketing hubs to increase the short-term deliverability capability of the industry and reduce the levels of conventional storage per unit of demand.[14]

- Cooler than normal weather this summer and subsequent lower demand for air conditioning has enabled a record summer stock build, causing gas prices to fall dramatically in July and abating concerns about winter gas supplies.

- Higher natural gas prices and demand are encouraging increased drilling for gas. The Baker Hughes natural gas rig count for the month of August was 488 rigs, a five year high.[15]

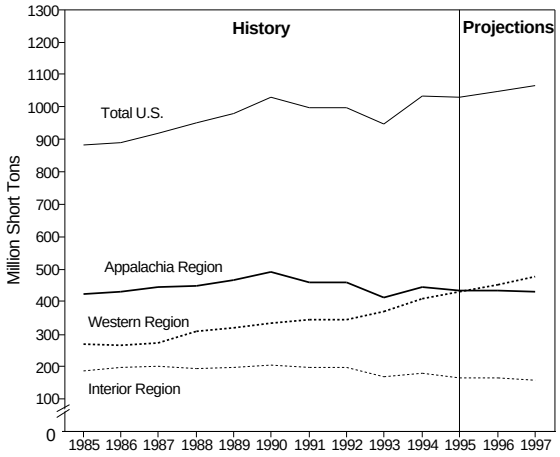
- Net natural gas imports from Canada are expected to expand by 5.0 percent in 1996, down somewhat from the 5.5 percent increase in 1995. In 1997, net imports will increase by another 5.0 percent. High load factors on export pipelines, averaging 87 percent in 1995,[16] will be a limiting factor until 1998, when 700 million cubic feet per day of increased export capacity is expected on the Northern Border pipeline.

Figure 31. U.S. Coal Demand Trends



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 32. U.S. Coal Production Trends by Region



Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternative Fuels. Details provided in Figure References Section.

- Electricity demand growth will continue to be the driving force behind coal consumption. Total coal demand is expected to increase by 2.4 percent in 1996 and remain flat in 1997 (Figure 31 and Table 11).

- The colder than normal first quarter is expected to help boost coal consumption by utility and nonutility electricity generators by 2.7 percent in 1996 (Table 11). In 1997, electricity sector demand for coal is expected to increase by 0.2 percent as a result of slower growth in electricity demand due to the assumptions of normal weather.

- Demand growth for coal at coke plants is expected to be modest throughout the forecast as a result of coking plant capacity constraints. The use of non-coke methods of steel production (steel recycling and electric arc furnaces) by the iron and steel industry has increased. Electric-arc production grew by 10.0 percent in 1995, accounting for 39.5 percent of raw steel production. The first half of 1996 has seen electric-arc raw steel production grow by 7.8 percent, accounting for nearly 42 percent of raw steel production.[17]

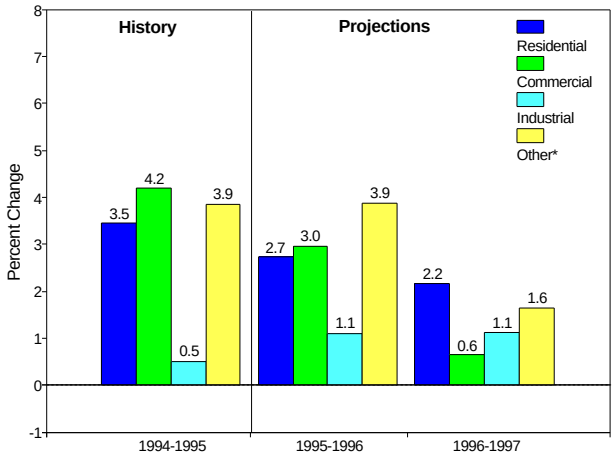
- Demand for coal by the retail and general industry sectors is projected at 78.3 million short tons in 1996, a 0.4 percent decrease from 1995 demand. Demand is forecast to decrease by 1.7 percent in 1997.

- After a sharp upturn in 1995, U.S. coal exports are expected to show only small gains in 1996, at 89.5 million short tons, and in 1997, at 91.9 million short tons (Table 11).

- Coal production is expected to grow by 1.9 percent in 1996 and by 1.5 percent in 1997, with annual output reaching 1,065 million short tons in 1997 (Figure 32). Production in the Western region should continue to rise over the forecast period, while production in the Interior and Appalachian regions declines slightly.[18]

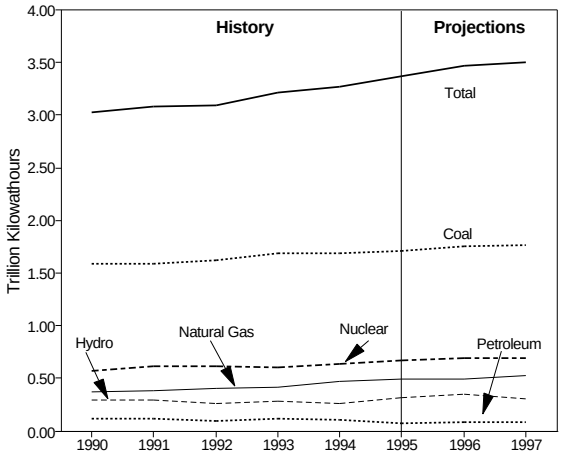
U.S. Electricity Demand and Supply

Figure 33. U.S. Electricity Demand



*Includes nonutility own use
Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 34. U.S. Electricity Production*



*Includes nonutilities
Mid World Oil Price Case
Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section.

- In 1996, total electricity demand is expected to continue to grow at 2.2 percent. In 1997, demand is expected to grow more slowly at 1.3 percent (see Table HL1). This is due mainly to expectations of relatively slower economic growth and normal weather (Figure 33 and Table 12).

- Residential demand growth for electricity in 1996 is projected at 2.7 percent, with much of the weather-related increase taking place in the first quarter (Figure 33). Normal weather in 1997 implies higher demand in the summer compared to the 1996 situation, resulting in a further 2.2 percent residential electricity demand increase.

- Commercial sector electricity demand is projected to rise by 3.0 percent in 1996. In 1997, commercial demand increases more slowly at 0.6 percent due primarily to assumptions of normal weather along with slower rates of expansion of employment (Figure 33 and Table 12).

- Industrial demand is projected to grow by 1.1 percent in both 1996 and 1997, reflecting continuing growth in industrial output (Table 12).

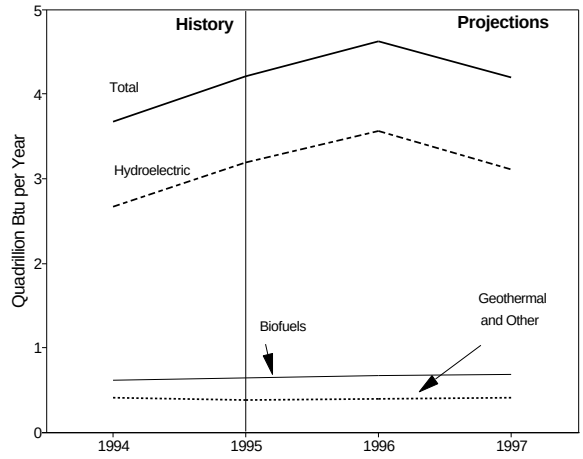
- U.S. utilities are expected to generate about 2.6 percent more electricity in 1996 and 0.3 percent more in 1997. Nonutility generation is expected to increase at faster rates of 6.0 percent in 1996 and 4.2 percent in 1997 as a result of capacity additions (Table 12).[19]

- Hydropower generation by electric utilities in 1996 is expected to exceed 1995 levels due mainly to above-normal water levels in the Pacific Northwest. In 1997 hydro generation is expected to be below 1996 levels as water conditions return to more normal levels (Figure 34).

- Nuclear power generation is expected to rise in 1996. In 1997 nuclear power generation is expected to remain at close to 1996 levels.

- In 1996 and 1997, net imports of electricity from Canada are expected to continue to decline from their well-above-normal 1994 levels.

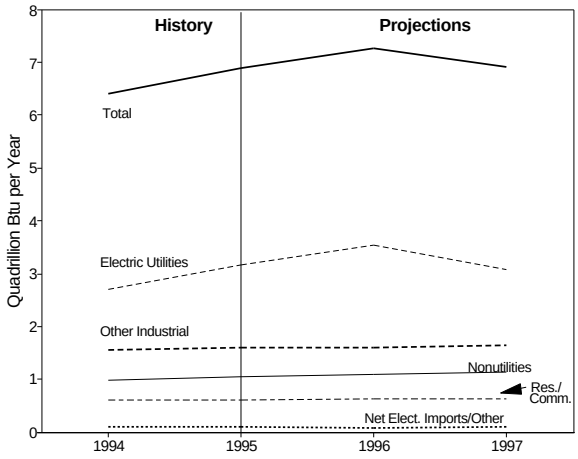
Figure 35. Renewable Energy Use for Electricity



Mid World Oil Price Case

Sources: Fourth Quarter 1996 STIFS database. Details provided in Figure References Section.

Figure 36. Renewable Energy Use by Sector



Mid World Oil Price Case

Sources: Fourth Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section.

- Renewable energy use in the United States amounted to about 6.9 quadrillion Btu (quads), or about 9.4 percent, of total domestic gross energy demand in 1995 (Table 13). In 1995, use of renewables increased by 7.6 percent due to an increase in hydroelectric generation due to heavy rainfall. In 1996, renewables growth is expected to increase by 5.7 percent, as rainfall has been unusually high in the major hydro-generating areas.

- More than half of all renewable energy use measured by EIA is associated with the production of electricity. While the biggest component of electricity producers' use of renewables is hydroelectric power generated by electric utilities (Figure 35), a significant and growing portion of renewables use occurs at nonutility generating facilities.

- Hydropower generation by electric utilities is expected to increase in 1996 from 1995 levels because of above normal streamflow in the Pacific Northwest. In 1997, hydroelectric generation is expected to return to normal as streamflow returns to more normal levels.

- Most of the nonutility use of renewables involves biofuels, principally wood, wood by-products, and waste. However, all of the major forms of renewables used at nonutilities (including hydropower) are projected to grow.

- Most of the utility use of renewables involves hydropower. Since hydropower availability is expected to return to normal in 1997, utility use of renewables will show a decline in 1997.

- Currently, aside from power generation, the most significant area of renewables use is in the industrial sector, accounting for 23 percent of the total in 1995 (Figure 36). This component is principally biofuels.

- Renewables use in the combined residential and commercial sector, at about 0.61 quad in 1995, accounts for about 9 percent of marketed total domestic renewables demand. Most of this energy is wood used for home heating, with only a very small amount having to do with solar hot water heating.

Table 1. U.S. Macroeconomic and Weather Assumptions

	Macro Case	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	Year 1995	Year 1996	Year 1997
Macroeconomic [a]																
Real Gross Domestic Product	High								*6982*	*7049*	*7116*	*7195*	*7239*		*6905*	*7150*
(billion chained 1992 dollars - SAAR)	Mid	**6702**	**6709**	**6768**	**6777**	**6824**	**6885**	*6929*	*6966*	*6993*	*7018*	*7057*	*7090*	**6739**	*6901*	*7039*
	Low								*6950*	*6937*	*6919*	*6920*	*6941*		*6897*	*6929*
	High								*3.0*	*3.3*	*3.4*	*3.8*	*3.7*		*2.5*	*3.5*
Percentage Change from Prior Year	Mid	**3.0**	**1.9**	**1.9**	**1.3**	**1.8**	**2.6**	*2.4*	*2.8*	*2.5*	*1.9*	*1.9*	*1.8*	**2.0**	*2.4*	*2.0*
	Low								*2.6*	*1.7*	*0.5*	*-0.1*	*-0.1*		*2.3*	*0.5*
Annualized Percent Change	High								*3.1*	*3.8*	*3.8*	*4.5*	*2.4*			
from Prior Quarter	Mid	**0.6**	**0.5**	**3.5**	**0.5**	**2.8**	**3.6**	*2.5*	*2.2*	*1.5*	*1.4*	*2.3*	*1.8*			
	Low								*1.2*	*-0.7*	*-1.0*	*0.0*	*1.2*			
GDP Implicit Price Deflator	High								*1.107*	*1.112*	*1.115*	*1.119*	*1.125*		*1.099*	*1.118*
(Index, 1992=1.000)	Mid	**1.067**	**1.073**	**1.079**	**1.085**	**1.092**	**1.096**	*1.102*	*1.108*	*1.115*	*1.120*	*1.126*	*1.133*	**1.076**	*1.100*	*1.124*
	Low								*1.109*	*1.118*	*1.125*	*1.133*	*1.141*		*1.100*	*1.129*
	High								*2.1*	*1.8*	*1.7*	*1.5*	*1.6*		*2.2*	*1.7*
Percentage Change from Prior Year	Mid	**2.5**	**2.6**	**2.6**	**2.5**	**2.4**	**2.1**	*2.1*	*2.1*	*2.1*	*2.2*	*2.2*	*2.3*	**2.5**	*2.2*	*2.2*
	Low								*2.2*	*2.4*	*2.6*	*2.8*	*2.9*		*2.2*	*2.7*
Real Disposable Personal Income	High								*5141*	*5233*	*5273*	*5341*	*5368*		*5083*	*5304*
(billion chained 1992 Dollars - SAAR)	Mid	**4896**	**4896**	**4950**	**4997**	**5037**	**5057**	*5098*	*5129*	*5189*	*5196*	*5234*	*5252*	**4935**	*5080*	*5218*
	Low								*5116*	*5145*	*5120*	*5126*	*5136*		*5077*	*5132*
	High								*2.9*	*3.9*	*4.3*	*4.8*	*4.4*		*3.0*	*4.3*
Percentage Change from Prior Year	Mid	**4.9**	**2.4**	**3.0**	**3.0**	**2.9**	**3.3**	*3.0*	*2.6*	*3.0*	*2.8*	*2.7*	*2.4*	**3.3**	*2.9*	*2.7*
	Low								*2.4*	*2.1*	*1.2*	*0.6*	*0.4*		*2.9*	*1.1*
Manufacturing Production	High								*1.311*	*1.337*	*1.363*	*1.390*	*1.402*		*1.280*	*1.373*
(Index, 1987=1.000)	Mid	**1.240**	**1.233**	**1.241**	**1.246**	**1.253**	**1.270**	*1.286*	*1.304*	*1.313*	*1.321*	*1.331*	*1.339*	**1.240**	*1.278*	*1.326*
	Low								*1.297*	*1.289*	*1.279*	*1.273*	*1.276*		*1.277*	*1.279*
	High								*5.2*	*6.7*	*7.3*	*8.0*	*6.9*		*3.2*	*7.3*
Percentage Change from Prior Year	Mid	**6.3**	**3.6**	**3.0**	**1.4**	**1.0**	**3.0**	*3.6*	*4.7*	*4.8*	*4.0*	*3.5*	*2.7*	**3.5**	*3.1*	*3.7*
	Low								*4.1*	*2.9*	*0.7*	*-1.0*	*-1.6*		*2.9*	*0.2*
OECD Economic Growth (percent) [b]														**2.1**	*2.1*	*2.2*
Weather [c]																
Heating Degree-Days																
U.S.		**2153**	**580**	**108**	**1721**	**2401**	**596**	*101*	*1636*	*2327*	*524*	*89*	*1636*	**4562**	*4734*	*4576*
New England		**3024**	**989**	**221**	**2362**	**3353**	**997**	*212*	*2269*	*3267*	*915*	*171*	*2269*	**6596**	*6831*	*6621*
Middle Atlantic		**2772**	**778**	**124**	**2152**	**3079**	**817**	*127*	*2026*	*2993*	*716*	*105*	*2026*	**5826**	*6049*	*5839*
U.S. Gas-Weighted		**2164**	**631**	**127**	**1785**	**2501**	**636**	*98*	*1686*	*2426*	*539*	*81*	*1686*	**4707**	*4921*	*4732*
Cooling Degree-Days (U.S.)		**32**	**322**	**864**	**61**	**19**	**372**	*729*	*72*	*30*	*334*	*758*	*72*	**1279**	*1192*	*1193*

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world oil price cases (as shown in Table 5) and by various explicit economic assumptions, with the low world oil price case applied to the high macroeconomic case, and the high world oil price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[b]OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member but is not yet included in OECD data.

[c]Population-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, August 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

Table 2. U.S. Energy Indicators: Mid World Oil Price Case

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic [a]															
Real Fixed Investment (billion chained 1992 dollars-SAAR)	**970**	**966**	**981**	**991**	**1015**	**1025**	*1040*	*1044*	*1042*	*1043*	*1050*	*1062*	**977**	*1031*	*1049*
Real Exchange Rate (index)	**0.998**	**0.937**	**0.965**	**0.978**	**1.003**	**1.013**	*1.019*	*1.024*	*1.026*	*1.022*	*1.015*	*1.009*	**0.970**	*1.015*	*1.018*
Business Inventory Change (billion chained 1992 dollars-SAAR)	**8.6**	**11.3**	**16.4**	**11.2**	**17.9**	**-0.8**	*7.2*	*9.1*	*9.5*	*8.1*	*6.2*	*4.2*	**11.9**	*8.3*	*7.0*
Producer Price Index (index, 1980-1984=1.000)	**1.235**	**1.246**	**1.252**	**1.258**	**1.261**	**1.274**	*1.280*	*1.277*	*1.278*	*1.279*	*1.281*	*1.288*	**1.248**	*1.273*	*1.281*
Consumer Price Index (index, 1980-1984=1.000)	**1.509**	**1.522**	**1.530**	**1.539**	**1.551**	**1.566**	*1.577*	*1.588*	*1.598*	*1.608*	*1.620*	*1.632*	**1.525**	*1.570*	*1.614*
Petroleum Product Price Index (index, 1980-1984=1.000)	**0.584**	**0.647**	**0.611**	**0.590**	**0.632**	**0.728**	*0.716*	*0.708*	*0.695*	*0.678*	*0.666*	*0.656*	**0.608**	*0.696*	*0.674*
Non-Farm Employment (millions)	**116.5**	**117.0**	**117.4**	**117.9**	**118.5**	**119.3**	*119.9*	*120.5*	*120.8*	*121.2*	*121.5*	*121.9*	**117.2**	*119.5*	*121.4*
Commercial Employment (millions)	**78.1**	**78.6**	**79.1**	**79.7**	**80.2**	**80.9**	*81.5*	*82.1*	*82.4*	*82.8*	*83.2*	*83.5*	**78.8**	*81.2*	*83.0*
Total Industrial Production (index, 1987=1.000)	**1.218**	**1.214**	**1.223**	**1.225**	**1.234**	**1.251**	*1.264*	*1.281*	*1.290*	*1.297*	*1.306*	*1.313*	**1.220**	*1.258*	*1.301*
Housing Stock (millions)	**109.2**	**109.6**	**109.9**	**110.3**	**110.6**	**111.0**	*111.4*	*111.8*	*112.1*	*112.5*	*112.8*	*113.1*	**109.8**	*111.2*	*112.6*
Miscellaneous															
Gas Weighted Industrial Production (index, 1987=1.000)	**1.185**	**1.176**	**1.177**	**1.182**	**1.184**	**1.183**	*1.192*	*1.207*	*1.216*	*1.221*	*1.228*	*1.235*	**1.180**	*1.191*	*1.225*
Vehicle Miles Traveled (million miles/day)	**6141**	**6794**	**6947**	**6448**	**6150**	**6949**	*7133*	*6633*	*6424*	*7126*	*7312*	*6810*	**6584**	*6717*	*6920*
Vehicle Fuel Efficiency (miles per gallon)	**19.56**	**20.42**	**20.79**	**19.70**	**19.50**	**20.72**	*21.18*	*19.87*	*19.80*	*20.69*	*21.06*	*19.95*	**20.13**	*20.33*	*20.39*
Real Vehicle Fuel Cost (cents per mile)	**4.00**	**4.00**	**3.86**	**3.86**	**3.96**	**4.15**	*3.94*	*4.11*	*3.94*	*3.90*	*3.81*	*3.87*	**3.93**	*4.04*	*3.88*
Air Travel Capacity (mill. available ton-miles/day)	**371.1**	**380.1**	**397.2**	**385.1**	**381.3**	**398.4**	*417.2*	*408.6*	*406.4*	*422.9*	*439.8*	*429.7*	**383.4**	*401.4*	*424.8*
Aircraft Utilization (mill. revenue ton-miles/day)	**202.4**	**218.3**	**230.9**	**215.6**	**212.8**	**230.7**	*243.9*	*230.1*	*225.3*	*241.1*	*255.7*	*239.7*	**216.9**	*229.4*	*240.5*
Aircraft Yield (cents per ton-mile)	**13.33**	**13.57**	**13.11**	**13.55**	**14.10**	**13.67**	*12.80*	*13.38*	*13.79*	*13.29*	*12.47*	*13.29*	**13.39**	*13.49*	*13.21*
Raw Steel Production (millions)	**26.55**	**25.31**	**25.43**	**25.94**	**26.55**	**26.05**	*25.25*	*26.25*	*27.14*	*26.55*	*25.58*	*26.98*	**102.94**	*104.10*	*106.26*

[a]Macroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world price cases (as shown in Table 4) and by various explicit economic assumptions, with low world oil price case applied to the high macroeconomic case, and high world oil price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, August 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

Table 3. International Petroleum Supply and Demand: Mid World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Demand [a]															
OECD															
U.S. (50 States)	**17.6**	**17.5**	**17.7**	**18.0**	**18.3**	**17.9**	*18.0*	*18.3*	*18.3*	*18.0*	*18.3*	*18.6*	**17.7**	*18.1*	*18.3*
U.S. Territories	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.2**	*0.2*	*0.2*
Canada	**1.7**	**1.7**	**1.8**	**1.8**	**1.8**	**1.7**	*1.8*	*1.8*	*1.8*	*1.7*	*1.9*	*1.9*	**1.8**	*1.8*	*1.8*
Europe [b]	**14.0**	**13.5**	**13.7**	**14.4**	**14.3**	**13.7**	*13.8*	*14.5*	*14.2*	*13.8*	*14.0*	*14.7*	**13.9**	*14.1*	*14.2*
Japan	**6.4**	**5.2**	**5.3**	**6.0**	**6.4**	**5.3**	*5.4*	*6.0*	*6.4*	*5.3*	*5.5*	*6.1*	**5.7**	*5.8*	*5.8*
Australia and New Zealand	**0.9**	**1.0**	**1.0**	**1.0**	**0.9**	**1.0**	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	**1.0**	*1.0*	*1.0*
Total OECD	**40.9**	**39.2**	**39.8**	**41.3**	**42.0**	**39.8**	*40.2*	*41.9*	*41.8*	*40.2*	*40.9*	*42.5*	**40.3**	*41.0*	*41.4*
Non-OECD															
Former Soviet Union	**5.1**	**4.6**	**4.6**	**4.7**	**5.0**	**4.6**	*4.6*	*4.7*	*5.1*	*4.7*	*4.7*	*4.8*	**4.7**	*4.8*	*4.8*
Europe	**1.5**	**1.3**	**1.3**	**1.4**	**1.6**	**1.4**	*1.4*	*1.5*	*1.6*	*1.4*	*1.4*	*1.5*	**1.4**	*1.4*	*1.5*
China	**3.3**	**3.4**	**3.4**	**3.4**	**3.5**	**3.6**	*3.6*	*3.6*	*3.7*	*3.8*	*3.8*	*3.8*	**3.4**	*3.6*	*3.8*
Other Asia	**8.0**	**7.8**	**7.6**	**8.5**	**8.5**	**8.3**	*8.1*	*9.1*	*9.1*	*8.8*	*8.6*	*9.6*	**8.0**	*8.5*	*9.0*
Other Non-OECD	**12.1**	**12.1**	**12.2**	**12.4**	**12.3**	**12.3**	*12.5*	*12.7*	*12.6*	*12.7*	*12.8*	*13.0*	**12.2**	*12.5*	*12.8*
Total Non-OECD	**30.0**	**29.2**	**29.1**	**30.4**	**31.0**	**30.2**	*30.2*	*31.6*	*32.2*	*31.4*	*31.3*	*32.8*	**29.7**	*30.7*	*31.9*
Total World Demand	**71.0**	**68.3**	**68.8**	**71.7**	**73.0**	**70.0**	*70.4*	*73.5*	*74.0*	*71.5*	*72.2*	*75.3*	**70.0**	*71.7*	*73.3*
Supply [c]															
OECD															
U.S. (50 States)	**9.5**	**9.4**	**9.3**	**9.4**	**9.4**	**9.4**	*9.2*	*9.3*	*9.3*	*9.2*	*9.2*	*9.2*	**9.4**	*9.3*	*9.2*
Canada	**2.4**	**2.4**	**2.4**	**2.5**	**2.4**	**2.4**	*2.4*	*2.4*	*2.4*	*2.4*	*2.5*	*2.5*	**2.4**	*2.4*	*2.4*
North Sea [d]	**5.8**	**5.4**	**5.7**	**6.3**	**6.2**	**6.1**	*6.4*	*6.6*	*6.7*	*6.6*	*6.6*	*7.0*	**5.8**	*6.3*	*6.7*
Other OECD	**1.6**	**1.6**	**1.6**	**1.5**	**1.5**	**1.6**	*1.5*	*1.6*	*1.5*	*1.5*	*1.5*	*1.5*	**1.6**	*1.5*	*1.5*
Total OECD	**19.3**	**18.9**	**19.0**	**19.7**	**19.5**	**19.5**	*19.5*	*19.9*	*20.0*	*19.8*	*19.7*	*20.1*	**19.2**	*19.6*	*19.9*
Non-OECD															
OPEC	**27.2**	**27.7**	**27.8**	**27.8**	**28.1**	**28.0**	*27.9*	*28.5*	*28.7*	*28.7*	*28.8*	*29.0*	**27.6**	*28.1*	*28.8*
Former Soviet Union	**6.9**	**7.0**	**7.0**	**6.9**	**7.1**	**7.1**	*7.1*	*7.1*	*7.2*	*7.2*	*7.2*	*7.2*	**7.0**	*7.1*	*7.2*
China	**3.0**	**3.0**	**3.0**	**3.1**	**3.1**	**3.1**	*3.1*	*3.1*	*3.2*	*3.2*	*3.2*	*3.3*	**3.0**	*3.1*	*3.2*
Mexico	**3.1**	**3.2**	**3.2**	**2.9**	**3.3**	**3.4**	*3.4*	*3.4*	*3.5*	*3.5*	*3.5*	*3.5*	**3.1**	*3.4*	*3.5*
Other Non-OECD	**9.7**	**9.7**	**10.0**	**10.0**	**10.1**	**10.2**	*10.2*	*10.3*	*10.4*	*10.5*	*10.8*	*10.8*	**9.9**	*10.2*	*10.6*
Total Non-OECD	**50.0**	**50.6**	**51.0**	**50.6**	**51.7**	**51.8**	*51.7*	*52.4*	*52.9*	*53.0*	*53.4*	*53.6*	**50.6**	*51.9*	*53.2*
Total World Supply	**69.3**	**69.5**	**70.0**	**70.3**	**71.2**	**71.2**	*71.2*	*72.3*	*72.9*	*72.7*	*73.1*	*73.8*	**69.8**	*71.5*	*73.1*
Stock Changes and Statistical Discrepancy															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	**0.6**	**-0.1**	**-0.1**	**0.6**	**0.9**	**-0.7**	*-0.1*	*0.2*	*0.4*	*-0.7*	*-0.4*	*0.4*	**0.2**	*0.1*	*-0.1*
Other	**1.1**	**-1.1**	**-1.1**	**0.8**	**0.9**	**-0.5**	*-0.7*	*1.0*	*0.8*	*-0.5*	*-0.5*	*1.1*	**-0.1**	*0.2*	*0.2*
Total Stock Withdrawals	**1.7**	**-1.1**	**-1.2**	**1.4**	**1.8**	**-1.2**	*-0.8*	*1.2*	*1.1*	*-1.2*	*-0.9*	*1.6*	**0.2**	*0.2*	*0.1*
Closing Stocks, OECD only (billion barrels)	**2.7**	**2.7**	**2.8**	**2.7**	**2.6**	**2.7**	*2.7*	*2.7*	*2.6*	*2.7*	*2.8*	*2.8*	**2.7**	*2.7*	*2.8*
Non-OPEC Supply	**42.1**	**41.8**	**42.2**	**42.5**	**43.1**	**43.2**	*43.3*	*43.8*	*44.2*	*44.0*	*44.3*	*44.8*	**42.2**	*43.4*	*44.3*
Net Exports from Former Soviet Union	**1.8**	**2.4**	**2.4**	**2.2**	**2.1**	**2.4**	*2.5*	*2.4*	*2.1*	*2.5*	*2.5*	*2.4*	**2.2**	*2.3*	*2.4*

[a]Demand for petroleum by the OECD countries is synonymous with "petroleum product supplied" which is defined in the glossary of the EIA *Petroleum Supply Monthly,* DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption" which includes internal consumption, refinery fuel and loss, and bunkering.

[b]OECD Europe includes the former East Germany.

[c]Includes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

[d]Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(96/08); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, July 1996.

Table 4. U.S. Energy Prices
(Nominal Dollars)

	Price Case	1995 1st	1995 2nd	1995 3rd	1995 4th	1996 1st	1996 2nd	1996 3rd	1996 4th	1997 1st	1997 2nd	1997 3rd	1997 4th	Year 1995	Year 1996	Year 1997
Imported Crude Oil [a]	Low								*18.40*	*16.37*	*16.70*	*15.98*	*15.14*		*19.46*	*16.04*
(dollars per barrel)	Mid	**17.01**	**18.20**	**16.59**	**16.78**	**18.38**	**20.08**	*20.82*	*20.18*	*19.17*	*19.75*	*19.25*	*18.51*	**17.15**	*19.90*	*19.18*
	High								*21.96*	*21.96*	*22.81*	*22.69*	*21.87*		*20.34*	*22.35*
Natural Gas Wellhead	Low								*1.79*	*1.75*	*1.72*	*1.69*	*1.70*		*1.99*	*1.72*
(dollars per thousand cubic feet)	Mid	**1.53**	**1.59**	**1.46**	**1.77**	**2.02**	**2.14**	*2.06*	*2.05*	*1.92*	*1.76*	*1.76*	*1.93*	**1.59**	*2.07*	*1.85*
	High								*2.19*	*2.22*	*2.14*	*2.09*	*2.16*		*2.11*	*2.15*
Petroleum Products																
Gasoline Retail [b]	Low								*1.27*	*1.19*	*1.23*	*1.23*	*1.18*		*1.28*	*1.21*
(dollars per gallon)	Mid	**1.18**	**1.24**	**1.23**	**1.17**	**1.20**	**1.35**	*1.32*	*1.30*	*1.25*	*1.30*	*1.30*	*1.26*	**1.21**	*1.29*	*1.28*
	High								*1.33*	*1.31*	*1.37*	*1.37*	*1.34*		*1.30*	*1.35*
No. 2 Diesel Oil, Retail	Low								*1.22*	*1.14*	*1.14*	*1.11*	*1.13*		*1.21*	*1.13*
(dollars per gallon)	Mid	**1.09**	**1.11**	**1.10**	**1.12**	**1.16**	**1.23**	*1.24*	*1.26*	*1.21*	*1.21*	*1.18*	*1.21*	**1.10**	*1.22*	*1.20*
	High								*1.30*	*1.27*	*1.28*	*1.26*	*1.28*		*1.24*	*1.27*
No. 2 Heating Oil, Wholesale	Low								*0.61*	*0.55*	*0.53*	*0.52*	*0.52*		*0.61*	*0.53*
(dollars per gallon)	Mid	**0.49**	**0.51**	**0.50**	**0.54**	**0.59**	**0.61**	*0.63*	*0.65*	*0.62*	*0.60*	*0.59*	*0.60*	**0.51**	*0.62*	*0.60*
	High								*0.70*	*0.68*	*0.67*	*0.67*	*0.67*		*0.63*	*0.67*
No. 2 Heating Oil, Retail	Low								*0.98*	*0.95*	*0.91*	*0.86*	*0.90*		*0.97*	*0.92*
(dollars per gallon)	Mid	**0.88**	**0.86**	**0.82**	**0.89**	**0.96**	**0.98**	*0.95*	*1.02*	*1.01*	*0.98*	*0.93*	*0.97*	**0.87**	*0.98*	*0.99*
	High								*1.06*	*1.07*	*1.04*	*1.01*	*1.04*		*0.99*	*1.05*
No. 6 Residual Fuel Oil, Retail [c]	Low								*16.99*	*16.30*	*14.68*	*13.90*	*14.14*		*18.14*	*14.80*
(dollars per barrel)	Mid	**16.86**	**17.45**	**15.14**	**16.47**	**19.28**	**18.11**	*18.50*	*18.94*	*19.04*	*17.52*	*16.83*	*17.29*	**16.49**	*18.75*	*17.75*
	High								*20.27*	*21.00*	*19.68*	*19.22*	*19.61*		*19.11*	*19.94*
Electric Utility Fuels																
Coal	Low								*1.21*	*1.21*	*1.24*	*1.22*	*1.21*		*1.26*	*1.22*
(dollars per million Btu)	Mid	**1.33**	**1.34**	**1.31**	**1.29**	**1.29**	**1.31**	*1.28*	*1.28*	*1.28*	*1.30*	*1.27*	*1.26*	**1.32**	*1.29*	*1.28*
	High								*1.33*	*1.35*	*1.38*	*1.37*	*1.37*		*1.31*	*1.37*
Heavy Fuel Oil [d]	Low								*2.81*	*2.62*	*2.35*	*2.27*	*2.35*		*2.92*	*2.39*
(dollars per million Btu)	Mid	**2.61**	**2.74**	**2.41**	**2.72**	**3.00**	**2.86**	*2.99*	*3.13*	*3.05*	*2.79*	*2.73*	*2.86*	**2.60**	*3.00*	*2.86*
	High								*3.35*	*3.36*	*3.13*	*3.11*	*3.24*		*3.05*	*3.21*
Natural Gas	Low								*2.36*	*2.39*	*2.23*	*2.17*	*2.26*		*2.50*	*2.25*
(dollars per million Btu)	Mid	**1.98**	**2.00**	**1.84**	**2.23**	**2.79**	**2.54**	*2.49*	*2.58*	*2.56*	*2.30*	*2.27*	*2.48*	**1.98**	*2.57*	*2.37*
	High								*2.71*	*2.82*	*2.62*	*2.56*	*2.69*		*2.61*	*2.65*
Other Residential																
Natural Gas	Low								*6.32*	*5.60*	*6.14*	*7.55*	*6.05*		*6.22*	*5.96*
(dollars per thousand cubic feet)	Mid	**5.80**	**6.47**	**7.87**	**5.73**	**5.74**	**6.64**	*8.07*	*6.41*	*5.79*	*6.30*	*7.64*	*6.17*	**6.05**	*6.25*	*6.12*
	High								*6.47*	*5.92*	*6.56*	*7.98*	*6.50*		*6.27*	*6.34*
Electricity	Low								*7.97*	*7.52*	*8.10*	*8.37*	*7.88*		*8.25*	*7.97*
(cents per kilowatthour)	Mid	**8.00**	**8.58**	**8.73**	**8.30**	**7.90**	**8.53**	*8.76*	*8.26*	*7.86*	*8.43*	*8.70*	*8.23*	**8.41**	*8.36*	*8.31*
	High								*8.57*	*8.27*	*8.90*	*9.19*	*8.72*		*8.50*	*8.77*

[a]Cost of imported crude oil to U.S.
[b]Average for all grades and services.
[c]Average for all sulfur contents.
[d]Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the third quarter of 1995. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/08).

Table 5. U.S. Petroleum Supply and Demand: Low World Oil Price Case

(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	**6.69**	**6.60**	**6.44**	**6.51**	**6.52**	**6.47**	*6.42*	*6.33*	*6.25*	*6.12*	*5.89*	*5.95*	**6.56**	*6.43*	*6.05*
Alaska	**1.56**	**1.50**	**1.40**	**1.47**	**1.46**	**1.39**	*1.33*	*1.36*	*1.34*	*1.27*	*1.22*	*1.24*	**1.48**	*1.38*	*1.27*
Lower 48	**5.13**	**5.10**	**5.03**	**5.04**	**5.06**	**5.08**	*5.09*	*4.96*	*4.91*	*4.85*	*4.67*	*4.71*	**5.08**	*5.05*	*4.79*
Net Imports (including SPR) [b]	**6.73**	**7.32**	**7.49**	**7.00**	**6.90**	**7.67**	*7.77*	*7.52*	*7.41*	*8.34*	*8.73*	*8.23*	**7.14**	*7.46*	*8.18*
Other SPR Supply	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
SPR Stock Withdrawn or Added (-)	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.05**	*0.10*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.04*	*0.00*
Other Stock Withdrawn or Added (-)	**-0.02**	**0.13**	**0.24**	**0.03**	**0.04**	**-0.16**	*0.05*	*-0.08*	*-0.02*	*-0.08*	*0.07*	*-0.03*	**0.09**	*-0.04*	*-0.02*
Product Supplied and Losses	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	**-0.01**	*-0.01*	*-0.01*
Unaccounted-for Crude Oil	**0.10**	**0.18**	**0.20**	**0.28**	**0.20**	**0.38**	*0.11*	*0.27*	*0.26*	*0.28*	*0.28*	*0.27*	**0.19**	*0.24*	*0.28*
Total Crude Oil Supply	**13.49**	**14.23**	**14.36**	**13.81**	**13.67**	**14.40**	*14.40*	*14.02*	*13.90*	*14.65*	*14.97*	*14.41*	**13.97**	*14.12*	*14.48*
Other Supply															
NGL Production	**1.78**	**1.77**	**1.75**	**1.75**	**1.74**	**1.83**	*1.74*	*1.76*	*1.80*	*1.78*	*1.77*	*1.79*	**1.76**	*1.77*	*1.79*
Other Hydrocarbon and Alcohol Inputs	**0.30**	**0.31**	**0.31**	**0.31**	**0.32**	**0.29**	*0.24*	*0.31*	*0.33*	*0.31*	*0.32*	*0.33*	**0.30**	*0.29*	*0.32*
Crude Oil Product Supplied	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Processing Gain	**0.73**	**0.76**	**0.79**	**0.81**	**0.78**	**0.84**	*0.82*	*0.79*	*0.77*	*0.81*	*0.84*	*0.81*	**0.77**	*0.81*	*0.81*
Net Product Imports [c]	**0.73**	**0.66**	**0.89**	**0.72**	**0.96**	**1.15**	*1.03*	*1.22*	*1.21*	*1.24*	*1.06*	*1.05*	**0.75**	*1.09*	*1.14*
Product Stock Withdrawn or Added (-) [d]	**0.60**	**-0.21**	**-0.36**	**0.59**	**0.82**	**-0.59**	*-0.29*	*0.24*	*0.38*	*-0.66*	*-0.42*	*0.46*	**0.15**	*0.05*	*-0.06*
Total Supply	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.35*	*18.40*	*18.15*	*18.54*	*18.86*	**17.72**	*18.13*	*18.49*
Demand															
Motor Gasoline	**7.48**	**7.92**	**7.96**	**7.80**	**7.51**	**7.99**	*8.02*	*7.96*	*7.76*	*8.24*	*8.31*	*8.17*	**7.79**	*7.87*	*8.12*
Jet Fuel	**1.51**	**1.45**	**1.52**	**1.57**	**1.60**	**1.52**	*1.58*	*1.60*	*1.58*	*1.57*	*1.60*	*1.63*	**1.51**	*1.57*	*1.60*
Distillate Fuel Oil	**3.46**	**3.09**	**3.02**	**3.26**	**3.62**	**3.23**	*3.11*	*3.33*	*3.61*	*3.24*	*3.20*	*3.45*	**3.21**	*3.32*	*3.37*
Residual Fuel Oil	**0.89**	**0.82**	**0.81**	**0.89**	**0.96**	**0.77**	*0.77*	*0.95*	*1.07*	*0.85*	*0.88*	*1.01*	**0.85**	*0.86*	*0.95*
Other Oils [e]	**4.30**	**4.24**	**4.43**	**4.48**	**4.60**	**4.41**	*4.48*	*4.52*	*4.38*	*4.25*	*4.55*	*4.59*	**4.36**	*4.50*	*4.44*
Total Demand	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.35*	*18.40*	*18.15*	*18.54*	*18.86*	**17.72**	*18.13*	*18.49*
Total Petroleum Net Imports	**7.47**	**7.98**	**8.37**	**7.72**	**7.86**	**8.81**	*8.80*	*8.74*	*8.63*	*9.58*	*9.79*	*9.28*	**7.89**	*8.55*	*9.32*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	**339**	**328**	**306**	**303**	**300**	**314**	*310*	*317*	*319*	*326*	*320*	*323*	**303**	*317*	*323*
Total Motor Gasoline	**211**	**205**	**199**	**202**	**203**	**205**	*200*	*204*	*212*	*203*	*201*	*206*	**202**	*204*	*206*
Finished Motor Gasoline	**168**	**163**	**159**	**161**	**159**	**165**	*159*	*164*	*167*	*166*	*162*	*167*	**161**	*164*	*167*
Blending Components	**43**	**41**	**40**	**41**	**44**	**40**	*41*	*40*	*45*	*38*	*39*	*39*	**41**	*40*	*39*
Jet Fuel	**39**	**40**	**41**	**40**	**34**	**39**	*39*	*40*	*39*	*39*	*42*	*43*	**40**	*40*	*43*
Distillate Fuel Oil	**115**	**115**	**132**	**130**	**90**	**102**	*113*	*123*	*89*	*101*	*123*	*124*	**130**	*123*	*124*
Residual Fuel Oil	**38**	**36**	**40**	**37**	**32**	**35**	*36*	*37*	*32*	*39*	*39*	*39*	**37**	*37*	*39*
Other Oils [g]	**266**	**294**	**311**	**258**	**235**	**267**	*286*	*247*	*245*	*296*	*312*	*262*	**258**	*247*	*262*
Total Stocks (excluding SPR)	**1009**	**1017**	**1028**	**971**	**893**	**961**	*983*	*968*	*936*	*1004*	*1036*	*997*	**971**	*968*	*997*
Crude Oil in SPR	**592**	**592**	**592**	**592**	**589**	**584**	*576*	*576*	*576*	*576*	*576*	*576*	**592**	*576*	*576*
Total Stocks (including SPR)	**1601**	**1609**	**1620**	**1563**	**1482**	**1546**	*1559*	*1544*	*1511*	*1579*	*1612*	*1572*	**1563**	*1544*	*1572*

[a] Includes lease condensate.

[b] Net imports equals gross imports plus SPR imports minus exports.

[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

[d] Includes an estimate of minor product stock change based on monthly data.

[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

[f] Includes crude oil in transit to refineries.

[g] Includes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/08); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 6. U.S. Petroleum Supply and Demand: Mid World Oil Price Case

(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	**6.69**	**6.60**	**6.44**	**6.51**	**6.52**	**6.47**	*6.42*	*6.47*	*6.45*	*6.33*	*6.25*	*6.26*	**6.56**	*6.47*	*6.32*
Alaska	**1.56**	**1.50**	**1.40**	**1.47**	**1.46**	**1.39**	*1.33*	*1.39*	*1.37*	*1.30*	*1.25*	*1.26*	**1.48**	*1.39*	*1.29*
Lower 48	**5.13**	**5.10**	**5.03**	**5.04**	**5.06**	**5.08**	*5.09*	*5.08*	*5.08*	*5.04*	*5.01*	*4.99*	**5.08**	*5.08*	*5.03*
Net Imports (including SPR) [b]	**6.73**	**7.32**	**7.49**	**7.00**	**6.90**	**7.67**	*7.77*	*7.35*	*7.17*	*8.05*	*8.26*	*7.80*	**7.14**	*7.42*	*7.83*
Other SPR Supply	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
SPR Stock Withdrawn or Added (-)	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.05**	*0.10*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.04*	*0.00*
Other Stock Withdrawn or Added (-)	**-0.02**	**0.13**	**0.24**	**0.03**	**0.04**	**-0.16**	*0.05*	*-0.08*	*-0.02*	*-0.08*	*0.07*	*-0.03*	**0.09**	*-0.04*	*-0.02*
Product Supplied and Losses	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	**-0.01**	*-0.01*	*-0.01*
Unaccounted-for Crude Oil	**0.10**	**0.18**	**0.20**	**0.28**	**0.20**	**0.38**	*0.11*	*0.27*	*0.26*	*0.28*	*0.28*	*0.27*	**0.19**	*0.24*	*0.27*
Total Crude Oil Supply	**13.49**	**14.23**	**14.36**	**13.81**	**13.67**	**14.40**	*14.40*	*14.01*	*13.85*	*14.57*	*14.86*	*14.29*	**13.97**	*14.12*	*14.40*
Other Supply															
NGL Production	**1.78**	**1.77**	**1.75**	**1.75**	**1.74**	**1.83**	*1.74*	*1.76*	*1.80*	*1.78*	*1.78*	*1.79*	**1.76**	*1.77*	*1.79*
Other Hydrocarbon and Alcohol Inputs	**0.30**	**0.31**	**0.31**	**0.31**	**0.32**	**0.29**	*0.24*	*0.31*	*0.33*	*0.31*	*0.32*	*0.33*	**0.30**	*0.29*	*0.32*
Crude Oil Product Supplied	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Processing Gain	**0.73**	**0.76**	**0.79**	**0.81**	**0.78**	**0.84**	*0.82*	*0.78*	*0.77*	*0.81*	*0.83*	*0.80*	**0.77**	*0.81*	*0.80*
Net Product Imports [c]	**0.73**	**0.66**	**0.89**	**0.72**	**0.96**	**1.15**	*1.03*	*1.19*	*1.15*	*1.16*	*0.95*	*0.96*	**0.75**	*1.08*	*1.06*
Product Stock Withdrawn or Added (-) [d]	**0.60**	**-0.21**	**-0.36**	**0.59**	**0.82**	**-0.59**	*-0.29*	*0.24*	*0.38*	*-0.67*	*-0.42*	*0.46*	**0.15**	*0.04*	*-0.07*
Total Supply	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.30*	*18.29*	*17.99*	*18.32*	*18.64*	**17.72**	*18.12*	*18.31*
Demand															
Motor Gasoline	**7.48**	**7.92**	**7.96**	**7.80**	**7.51**	**7.99**	*8.02*	*7.95*	*7.73*	*8.20*	*8.27*	*8.13*	**7.79**	*7.87*	*8.08*
Jet Fuel	**1.51**	**1.45**	**1.52**	**1.57**	**1.60**	**1.52**	*1.58*	*1.60*	*1.58*	*1.57*	*1.60*	*1.63*	**1.51**	*1.57*	*1.59*
Distillate Fuel Oil	**3.46**	**3.09**	**3.02**	**3.26**	**3.62**	**3.23**	*3.11*	*3.33*	*3.59*	*3.21*	*3.16*	*3.40*	**3.21**	*3.32*	*3.34*
Residual Fuel Oil	**0.89**	**0.82**	**0.81**	**0.89**	**0.96**	**0.77**	*0.77*	*0.92*	*1.02*	*0.78*	*0.77*	*0.92*	**0.85**	*0.85*	*0.87*
Other Oils [e]	**4.30**	**4.24**	**4.43**	**4.48**	**4.60**	**4.41**	*4.48*	*4.52*	*4.37*	*4.23*	*4.53*	*4.56*	**4.36**	*4.50*	*4.43*
Total Demand	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.30*	*18.29*	*17.99*	*18.32*	*18.64*	**17.72**	*18.12*	*18.31*
Total Petroleum Net Imports	**7.47**	**7.98**	**8.37**	**7.72**	**7.86**	**8.81**	*8.79*	*8.55*	*8.33*	*9.22*	*9.22*	*8.77*	**7.89**	*8.50*	*8.88*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	**339**	**328**	**306**	**303**	**300**	**314**	*310*	*317*	*319*	*326*	*320*	*323*	**303**	*317*	*323*
Total Motor Gasoline	**211**	**205**	**199**	**202**	**203**	**205**	*200*	*204*	*212*	*203*	*201*	*206*	**202**	*204*	*206*
Finished Motor Gasoline	**168**	**163**	**159**	**161**	**159**	**165**	*159*	*164*	*167*	*166*	*162*	*167*	**161**	*164*	*167*
Blending Components	**43**	**41**	**40**	**41**	**44**	**40**	*41*	*40*	*45*	*38*	*39*	*39*	**41**	*40*	*39*
Jet Fuel	**39**	**40**	**41**	**40**	**34**	**39**	*39*	*40*	*39*	*39*	*42*	*43*	**40**	*40*	*43*
Distillate Fuel Oil	**115**	**115**	**132**	**130**	**90**	**102**	*113*	*124*	*89*	*101*	*124*	*125*	**130**	*124*	*125*
Residual Fuel Oil	**38**	**36**	**40**	**37**	**32**	**35**	*36*	*37*	*32*	*39*	*39*	*39*	**37**	*37*	*39*
Other Oils [g]	**266**	**294**	**311**	**258**	**235**	**267**	*286*	*247*	*245*	*296*	*312*	*263*	**258**	*247*	*263*
Total Stocks (excluding SPR)	**1009**	**1017**	**1028**	**971**	**893**	**961**	*983*	*969*	*936*	*1005*	*1038*	*999*	**971**	*969*	*999*
Crude Oil in SPR	**592**	**592**	**592**	**592**	**589**	**584**	*576*	*576*	*576*	*576*	*576*	*576*	**592**	*576*	*576*
Total Stocks (including SPR)	**1601**	**1609**	**1620**	**1563**	**1482**	**1546**	*1559*	*1544*	*1512*	*1580*	*1613*	*1574*	**1563**	*1544*	*1574*

[a] Includes lease condensate.

[b] Net imports equals gross imports plus SPR imports minus exports.

[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

[d] Includes an estimate of minor product stock change based on monthly data.

[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

[f] Includes crude oil in transit to refineries.

[g] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/08); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 7. U.S. Petroleum Supply and Demand: High World Oil Price Case

(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	**6.69**	**6.60**	**6.44**	**6.51**	**6.52**	**6.47**	*6.42*	*6.60*	*6.60*	*6.54*	*6.47*	*6.50*	**6.56**	*6.50*	*6.53*
Alaska	**1.56**	**1.50**	**1.40**	**1.47**	**1.46**	**1.39**	*1.33*	*1.42*	*1.40*	*1.32*	*1.27*	*1.29*	**1.48**	*1.40*	*1.32*
Lower 48	**5.13**	**5.10**	**5.03**	**5.04**	**5.06**	**5.08**	*5.09*	*5.18*	*5.20*	*5.22*	*5.20*	*5.21*	**5.08**	*5.10*	*5.21*
Net Imports (including SPR) [b]	**6.73**	**7.32**	**7.49**	**7.00**	**6.90**	**7.67**	*7.77*	*7.21*	*6.98*	*7.78*	*7.96*	*7.46*	**7.14**	*7.39*	*7.55*
Other SPR Supply	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
SPR Stock Withdrawn or Added (-)	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.05**	*0.10*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.04*	*0.00*
Other Stock Withdrawn or Added (-)	**-0.02**	**0.13**	**0.24**	**0.03**	**0.04**	**-0.16**	*0.05*	*-0.08*	*-0.02*	*-0.08*	*0.07*	*-0.03*	**0.09**	*-0.04*	*-0.02*
Product Supplied and Losses	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	*-0.01*	**-0.01**	*-0.01*	*-0.01*
Unaccounted-for Crude Oil	**0.10**	**0.18**	**0.20**	**0.28**	**0.20**	**0.38**	*0.11*	*0.27*	*0.26*	*0.28*	*0.28*	*0.27*	**0.19**	*0.24*	*0.27*
Total Crude Oil Supply	**13.49**	**14.23**	**14.36**	**13.81**	**13.67**	**14.40**	*14.40*	*14.00*	*13.82*	*14.51*	*14.76*	*14.19*	**13.97**	*14.12*	*14.32*
Other Supply															
NGL Production	**1.78**	**1.77**	**1.75**	**1.75**	**1.74**	**1.83**	*1.74*	*1.76*	*1.80*	*1.78*	*1.78*	*1.79*	**1.76**	*1.77*	*1.79*
Other Hydrocarbon and Alcohol Inputs	**0.30**	**0.31**	**0.31**	**0.31**	**0.32**	**0.29**	*0.24*	*0.31*	*0.33*	*0.31*	*0.32*	*0.33*	**0.30**	*0.29*	*0.32*
Crude Oil Product Supplied	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Processing Gain	**0.73**	**0.76**	**0.79**	**0.81**	**0.78**	**0.84**	*0.82*	*0.78*	*0.76*	*0.81*	*0.82*	*0.80*	**0.77**	*0.81*	*0.80*
Net Product Imports [c]	**0.73**	**0.66**	**0.89**	**0.72**	**0.96**	**1.15**	*1.03*	*1.17*	*1.11*	*1.10*	*0.87*	*0.89*	**0.75**	*1.08*	*0.99*
Product Stock Withdrawn or Added (-) [d]	**0.60**	**-0.21**	**-0.36**	**0.59**	**0.82**	**-0.59**	*-0.29*	*0.23*	*0.37*	*-0.67*	*-0.43*	*0.45*	**0.15**	*0.04*	*-0.07*
Total Supply	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.26*	*18.20*	*17.85*	*18.14*	*18.45*	**17.72**	*18.11*	*18.16*
Demand															
Motor Gasoline	**7.48**	**7.92**	**7.96**	**7.80**	**7.51**	**7.99**	*8.02*	*7.93*	*7.70*	*8.16*	*8.22*	*8.08*	**7.79**	*7.86*	*8.04*
Jet Fuel	**1.51**	**1.45**	**1.52**	**1.57**	**1.60**	**1.52**	*1.58*	*1.59*	*1.58*	*1.56*	*1.59*	*1.62*	**1.51**	*1.57*	*1.59*
Distillate Fuel Oil	**3.46**	**3.09**	**3.02**	**3.26**	**3.62**	**3.23**	*3.11*	*3.32*	*3.57*	*3.18*	*3.12*	*3.36*	**3.21**	*3.32*	*3.31*
Residual Fuel Oil	**0.89**	**0.82**	**0.81**	**0.89**	**0.96**	**0.77**	*0.77*	*0.90*	*0.98*	*0.72*	*0.69*	*0.85*	**0.85**	*0.85*	*0.81*
Other Oils [e]	**4.30**	**4.24**	**4.43**	**4.48**	**4.60**	**4.41**	*4.48*	*4.51*	*4.36*	*4.22*	*4.51*	*4.54*	**4.36**	*4.50*	*4.41*
Total Demand	**17.64**	**17.52**	**17.74**	**18.00**	**18.29**	**17.91**	*17.96*	*18.26*	*18.20*	*17.85*	*18.14*	*18.45*	**17.72**	*18.11*	*18.16*
Total Petroleum Net Imports	**7.47**	**7.98**	**8.37**	**7.72**	**7.86**	**8.81**	*8.79*	*8.38*	*8.09*	*8.88*	*8.83*	*8.35*	**7.89**	*8.46*	*8.54*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [f]	**339**	**328**	**306**	**303**	**300**	**314**	*310*	*317*	*319*	*326*	*320*	*323*	**303**	*317*	*323*
Total Motor Gasoline	**211**	**205**	**199**	**202**	**203**	**205**	*200*	*204*	*212*	*203*	*201*	*206*	**202**	*204*	*206*
Finished Motor Gasoline	**168**	**163**	**159**	**161**	**159**	**165**	*159*	*164*	*167*	*166*	*162*	*167*	**161**	*164*	*167*
Blending Components	**43**	**41**	**40**	**41**	**44**	**40**	*41*	*40*	*45*	*38*	*39*	*39*	**41**	*40*	*39*
Jet Fuel	**39**	**40**	**41**	**40**	**34**	**39**	*39*	*40*	*39*	*39*	*42*	*43*	**40**	*40*	*43*
Distillate Fuel Oil	**115**	**115**	**132**	**130**	**90**	**102**	*113*	*124*	*90*	*102*	*125*	*126*	**130**	*124*	*126*
Residual Fuel Oil	**38**	**36**	**40**	**37**	**32**	**35**	*36*	*37*	*32*	*39*	*39*	*39*	**37**	*37*	*39*
Other Oils [g]	**266**	**294**	**311**	**258**	**235**	**267**	*286*	*247*	*246*	*297*	*313*	*264*	**258**	*247*	*264*
Total Stocks (excluding SPR)	**1009**	**1017**	**1028**	**971**	**893**	**961**	*983*	*969*	*937*	*1005*	*1039*	*1000*	**971**	*969*	*1000*
Crude Oil in SPR	**592**	**592**	**592**	**592**	**589**	**584**	*576*	*576*	*576*	*576*	*576*	*576*	**592**	*576*	*576*
Total Stocks (including SPR)	**1601**	**1609**	**1620**	**1563**	**1482**	**1546**	*1559*	*1545*	*1513*	*1581*	*1615*	*1576*	**1563**	*1545*	*1576*

[a] Includes lease condensate.

[b] Net imports equals gross imports plus SPR imports minus exports.

[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

[d] Includes an estimate of minor product stock change based on monthly data.

[e] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

[f] Includes crude oil in transit to refineries.

[g] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/08); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 8. U.S. Petroleum Demand Sensitivities

	1996	1997
	One Quarter[a]	Four Quarters[a]
Economic Activity		
Gross Domestic Product (billion 1987 dollars)	*6,982 - 6,950*	*6,929 - 7,150*
Resulting Change in Petroleum Demand (million barrels per day)[b]	*0.04*	*0.35*
Energy Prices		
Imported Crude Oil (nominal dollars per barrel)[c]	*$18.40 - $21.96*	*$16.04 - $22.35*
Resulting Change in Petroleum Demand (million barrels per day)[b]		
Due to Changes in the Crude Oil Price	*-0.09*	*-0.33*
Weather		
Heating Degree-Days (average per day)[d]	*16.39 - 22.06*	*20.28 - 24.00*
Resulting Change in Petroleum Demand (million barrels per day)	*0.37*	*0.48*
Cooling Degree-Days (average per day)[d]		*5.57 - 6.58*
Resulting Change in Petroleum Demand (million barrels per day)[b]		*0.12*

[a]In the weather case, calculations apply to certain quarters only, as follows: for heating degree-days in 1996 the value for the fourth quarter is used; for 1997 the average of first and fourth quarters is used; for cooling degree-days in 1996 the value for the third quarter is used; for 1997 the average of the second and third quarters is used.
[b]Ranges of petroleum product supplied associated with varying each determinant (or determinants), holding other things equal.
[c]Cost of imported crude oil to U.S. refiners.
[d]Heating and cooling degree-days are U.S. 1990 population-weighted.
Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division, Short-Term Integrated Forecasting System.

Table 9. Forecast Components for U.S. Crude Oil Production
(Million Barrels per Day)

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	*6.25*	*5.65*	*0.60*	*0.17*	*0.43*
Lower 48 States	*5.00*	*4.45*	*0.55*	*0.14*	*0.41*
Alaska	*1.25*	*1.20*	*0.05*	*0.03*	*0.03*

Note: Components provided are for the fourth quarter 1997; totals are from Tables 5 and 7. Totals may not add to sum of components due to independent rounding.
Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

Table 10. U.S. Natural Gas Supply and Demand: Mid World Oil Price Case
(Trillion Cubic Feet)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Total Dry Gas Production [a]	**4.58**	**4.58**	**4.59**	**4.72**	**4.72**	**4.77**	*4.78*	*4.80*	*4.93*	*4.87*	*4.91*	*4.99*	**18.46**	*19.08*	*19.70*
Net Imports	**0.70**	**0.64**	**0.65**	**0.70**	**0.66**	**0.63**	*0.72*	*0.81*	*0.74*	*0.71*	*0.72*	*0.79*	**2.69**	*2.82*	*2.96*
Supplemental Gaseous Fuels	**0.04**	**0.03**	**0.03**	**0.04**	**0.04**	**0.03**	*0.03*	*0.04*	*0.04*	*0.03*	*0.03*	*0.04*	**0.13**	*0.13*	*0.13*
Total New Supply	**5.31**	**5.25**	**5.27**	**5.46**	**5.42**	**5.43**	*5.53*	*5.65*	*5.70*	*5.61*	*5.67*	*5.82*	**21.28**	*22.03*	*22.80*
Underground Working Gas Storage															
Opening	**6.97**	**5.69**	**6.42**	**7.14**	**6.49**	**5.03**	*5.83*	*6.96*	*6.33*	*5.09*	*5.87*	*6.98*	**6.97**	*6.49*	*6.33*
Closing	**5.69**	**6.42**	**7.14**	**6.49**	**5.03**	**5.83**	*6.96*	*6.33*	*5.09*	*5.87*	*6.98*	*6.31*	**6.49**	*6.33*	*6.31*
Net Withdrawals	**1.28**	**-0.73**	**-0.72**	**0.64**	**1.46**	**-0.80**	*-1.13*	*0.62*	*1.24*	*-0.78*	*-1.10*	*0.67*	**0.47**	*0.16*	*0.03*
Total Supply [a]	**6.59**	**4.52**	**4.55**	**6.10**	**6.88**	**4.63**	*4.40*	*6.27*	*6.95*	*4.82*	*4.56*	*6.48*	**21.76**	*22.19*	*22.82*
Balancing Item [b]	**0.06**	**0.20**	**-0.12**	**-0.44**	**0.26**	**0.26**	*-0.08*	*-0.56*	*0.36*	*0.12*	*-0.04*	*-0.62*	**-0.30**	*-0.12*	*-0.18*
Total Primary Supply [a]	**6.65**	**4.72**	**4.43**	**5.66**	**7.14**	**4.90**	*4.32*	*5.70*	*7.31*	*4.94*	*4.53*	*5.87*	**21.46**	*22.07*	*22.64*
Demand															
Lease and Plant Fuel	**0.28**	**0.29**	**0.28**	**0.29**	**0.29**	**0.30**	*0.29*	*0.30*	*0.31*	*0.29*	*0.30*	*0.31*	**1.14**	*1.18*	*1.21*
Pipeline Use	**0.22**	**0.15**	**0.14**	**0.18**	**0.24**	**0.16**	*0.14*	*0.18*	*0.23*	*0.16*	*0.15*	*0.19*	**0.70**	*0.72*	*0.73*
Residential	**2.16**	**0.84**	**0.38**	**1.49**	**2.50**	**0.92**	*0.37*	*1.40*	*2.44*	*0.86*	*0.38*	*1.42*	**4.87**	*5.20*	*5.09*
Commercial	**1.17**	**0.57**	**0.41**	**0.89**	**1.36**	**0.62**	*0.41*	*0.88*	*1.35*	*0.60*	*0.41*	*0.88*	**3.03**	*3.26*	*3.24*
Industrial (Incl. Cogenerators)	**2.17**	**2.04**	**1.97**	**2.15**	**2.24**	**2.06**	*1.98*	*2.18*	*2.29*	*2.12*	*2.05*	*2.24*	**8.33**	*8.46*	*8.70*
Cogenerators [c]	**0.49**	**0.54**	**0.52**	**0.50**	**0.52**	**0.57**	*0.55*	*0.53*	*0.54*	*0.60*	*0.58*	*0.55*	**2.06**	*2.16*	*2.26*
Electricity Production															
Electric Utilities	**0.61**	**0.78**	**1.19**	**0.61**	**0.46**	**0.74**	*1.08*	*0.73*	*0.64*	*0.85*	*1.19*	*0.78*	**3.20**	*3.01*	*3.46*
Nonutilities (Excl. Cogen.)	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	*0.05*	*0.05*	*0.05*	*0.06*	*0.05*	*0.05*	**0.19**	*0.20*	*0.21*
Total Demand	**6.65**	**4.72**	**4.43**	**5.66**	**7.14**	**4.90**	*4.32*	*5.70*	*7.31*	*4.94*	*4.53*	*5.87*	**21.46**	*22.07*	*22.64*

[a]Excludes nonhydrocarbon gases removed.

[b]The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

[c]Quarterly estimates and projections for gas consumption by nonutility generators are based on estimates for quarterly gas-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Annual projections for nonutility gas consumption, as well as the detail on independent power producers' share of gas consumption, are provided by CNEAF.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); *Natural Gas Monthly*, DOE/EIA-0130(96/08); *Electric Power Monthly*, DOE/EIA-0226(96/08); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

Table 11. U.S. Coal Supply and Demand: Mid World Oil Price Case
(Million Short Tons)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Production	**267.1**	**249.3**	**257.9**	**258.6**	**258.1**	**262.2**	*265.2*	*263.9*	*265.2*	*264.8*	*267.9*	*267.3*	**1033.0**	*1049.3*	*1065.2*
Appalachia	**113.3**	**106.0**	**107.0**	**108.4**	**109.8**	**110.1**	*108.7*	*108.4*	*110.1*	*108.4*	*107.5*	*107.4*	**434.9**	*437.1*	*433.4*
Interior	**42.1**	**40.6**	**42.7**	**42.6**	**43.8**	**40.6**	*41.3*	*41.0*	*43.6*	*39.1*	*39.7*	*39.5*	**168.5**	*166.7*	*161.8*
Western	**111.1**	**102.7**	**108.2**	**107.6**	**104.4**	**111.5**	*115.2*	*114.5*	*111.5*	*117.4*	*120.7*	*120.4*	**429.6**	*445.6*	*469.9*
Primary Stock Levels [a]															
Opening	**33.2**	**42.5**	**42.1**	**36.2**	**34.4**	**36.9**	*33.5*	*32.5*	*32.5*	*35.0*	*35.0*	*33.0*	**33.2**	*34.4*	*32.5*
Closing	**42.5**	**42.1**	**36.2**	**34.4**	**36.9**	**33.5**	*32.5*	*32.5*	*35.0*	*35.0*	*33.0*	*32.0*	**34.4**	*32.5*	*32.0*
Net Withdrawals	**-9.2**	**0.4**	**5.9**	**1.7**	**-2.4**	**3.3**	*1.0*	*(S)*	*-2.5*	*(S)*	*2.0*	*1.0*	**-1.2**	*1.9*	*0.5*
Imports	**1.8**	**1.6**	**1.7**	**2.1**	**1.7**	**1.6**	*1.8*	*1.9*	*1.9*	*1.9*	*1.9*	*1.9*	**7.2**	*7.0*	*7.5*
Exports	**19.0**	**23.2**	**22.2**	**24.2**	**20.5**	**23.0**	*23.0*	*22.9*	*22.3*	*23.0*	*23.3*	*23.2*	**88.5**	*89.5*	*91.9*
Total Net Domestic Supply	**240.7**	**228.1**	**243.3**	**238.3**	**236.8**	**244.1**	*245.0*	*242.8*	*242.2*	*243.6*	*248.5*	*247.0*	**950.4**	*968.8*	*981.4*
Secondary Stock Levels [b]															
Opening	**136.1**	**144.0**	**151.7**	**131.7**	**134.6**	**124.5**	*133.8*	*120.2*	*123.0*	*121.5*	*133.9*	*122.1*	**136.1**	*134.6*	*123.0*
Closing	**144.0**	**151.7**	**131.7**	**134.6**	**124.4**	**133.8**	*120.2*	*123.0*	*121.5*	*133.9*	*121.1*	*122.9*	**134.6**	*123.0*	*122.9*
Net Withdrawals	**-7.9**	**-7.7**	**19.9**	**-2.9**	**10.1**	**-9.3**	*13.6*	*-2.8*	*1.5*	*-12.4*	*11.8*	*-0.8*	**1.5**	*11.6*	*0.2*
Total Supply	**232.8**	**220.5**	**263.2**	**235.4**	**247.0**	**234.8**	*258.6*	*240.1*	*243.7*	*231.2*	*260.3*	*246.2*	**951.9**	*980.4*	*981.5*
Demand															
Coke Plants	**8.1**	**8.3**	**8.3**	**8.3**	**8.0**	**8.2**	*8.3*	*8.3*	*8.0*	*8.2*	*8.4*	*8.4*	**33.0**	*32.7*	*33.0*
Electricity Production															
Electric Utilities	**198.8**	**191.1**	**232.0**	**207.1**	**214.8**	**203.0**	*226.7*	*205.7*	*210.0*	*199.8*	*228.2*	*211.5*	**829.0**	*850.2*	*849.5*
Nonutilities (Excl. Cogen.) [c]	**4.5**	**4.5**	**4.5**	**4.5**	**5.0**	**5.0**	*5.0*	*5.0*	*5.5*	*5.5*	*5.5*	*5.5*	**18.0**	*20.0*	*22.0*
Retail and General Industry [d]	**20.7**	**18.0**	**19.0**	**20.9**	**20.3**	**18.5**	*18.6*	*21.1*	*20.3*	*17.7*	*18.2*	*20.8*	**78.6**	*78.5*	*77.0*
Total Demand	**232.1**	**221.9**	**263.9**	**240.7**	**248.0**	**234.8**	*258.6*	*240.1*	*243.7*	*231.2*	*260.3*	*246.2*	**958.6**	*981.4*	*981.5*
Discrepancy [e]	**0.7**	**-1.5**	**-0.6**	**-5.4**	**-1.0**	**(S)**	*(S)*	*(S)*	*(S)*	*(S)*	*(S)*	*(S)*	**-6.7**	*-1.0*	*(S)*

[a]Primary stocks are held at the mines, preparation plants, and distribution points.

[b]Secondary stocks are held by users.

[c]Consumption of coal by Independent Power Producers (IPPs). In 1993, IPP consumption was estimated to be 1.8 million tons per quarter. Quarterly estimates and projections for coal consumption by nonutility generators are based on estimates for quarterly coal-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Data for 1994 and 1995 are estimates.

[d]Synfuels plant demand in 1993 was 1.7 million tons per quarter and is assumed to remain at that level in 1994, 1995, and 1996.

[e]Historical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference. Forecast discrepancy identically zero by assumption.

(S) indicates amounts of less than 50,000 tons in absolute value.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/4Q); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 12. U.S. Electricity Supply and Demand: Mid World Oil Price Case
(Billion Kilowatthours)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Net Utility Generation															
Coal	**397.8**	**382.9**	**460.3**	**411.9**	**427.5**	**405.1**	*442.4*	*413.9*	*424.3*	*397.7*	*456.7*	*424.1*	**1652.9**	*1689.0*	*1702.8*
Petroleum	**14.3**	**12.1**	**20.4**	**14.1**	**22.4**	**12.8**	*18.7*	*14.7*	*18.5*	*14.5*	*19.5*	*16.0*	**60.8**	*68.6*	*68.5*
Natural Gas	**59.6**	**75.1**	**113.6**	**58.9**	**44.6**	**71.3**	*101.7*	*68.3*	*59.8*	*79.7*	*112.2*	*73.2*	**307.3**	*285.8*	*325.0*
Nuclear	**167.1**	**160.1**	**179.4**	**166.8**	**174.4**	**163.5**	*185.8*	*171.5*	*178.6*	*160.9*	*187.6*	*169.5*	**673.4**	*695.2*	*696.5*
Hydroelectric	**74.7**	**78.4**	**67.7**	**72.8**	**91.1**	**92.6**	*74.6*	*69.7*	*77.4*	*78.7*	*64.0*	*63.5*	**293.7**	*328.0*	*283.7*
Geothermal and Other [a]	**1.4**	**1.2**	**1.7**	**2.2**	**1.5**	**1.5**	*1.8*	*1.8*	*1.7*	*1.7*	*1.7*	*1.7*	**6.4**	*6.6*	*6.8*
Subtotal	**714.9**	**709.8**	**843.1**	**726.7**	**761.4**	**746.7**	*825.0*	*740.0*	*760.4*	*733.2*	*841.7*	*748.0*	**2994.5**	*3073.2*	*3083.3*
Nonutility Generation [b]															
Coal	**14.7**	**16.2**	**15.7**	**15.0**	**15.6**	**17.3**	*16.6*	*15.9*	*16.3*	*18.0*	*17.3*	*16.6*	**61.5**	*65.4*	*68.2*
Petroleum	**3.7**	**4.1**	**3.9**	**3.7**	**4.0**	**4.5**	*4.3*	*4.1*	*4.4*	*4.9*	*4.7*	*4.5*	**15.4**	*16.9*	*18.4*
Natural Gas	**45.2**	**50.0**	**48.2**	**46.0**	**48.2**	**53.3**	*51.4*	*49.1*	*50.3*	*55.7*	*53.7*	*51.3*	**189.4**	*201.9*	*211.1*
Other Gaseous Fuels [c]	**3.0**	**3.3**	**3.2**	**3.0**	**3.0**	**3.3**	*3.2*	*3.0*	*3.0*	*3.3*	*3.2*	*3.1*	**12.5**	*12.5*	*12.6*
Hydroelectric	**3.2**	**3.6**	**3.5**	**3.3**	**3.5**	**3.9**	*3.7*	*3.6*	*3.7*	*4.1*	*4.0*	*3.8*	**13.6**	*14.7*	*15.5*
Geothermal and Other [d]	**19.1**	**21.1**	**20.4**	**19.5**	**19.9**	**22.0**	*21.3*	*20.3*	*20.4*	*22.6*	*21.8*	*20.8*	**80.1**	*83.5*	*85.7*
Subtotal	**88.8**	**98.3**	**94.8**	**90.5**	**94.2**	**104.2**	*100.5*	*96.0*	*98.1*	*108.6*	*104.7*	*100.0*	**372.5**	*394.9*	*411.4*
Total Generation	**803.7**	**808.2**	**937.9**	**817.2**	**855.6**	**850.9**	*925.6*	*835.9*	*858.6*	*841.8*	*946.5*	*848.0*	**3367.0**	*3468.1*	*3494.8*
Net Imports [e]	**9.0**	**9.6**	**11.3**	**7.7**	**7.1**	**9.2**	*11.2*	*7.6*	*6.9*	*8.9*	*10.9*	*7.4*	**37.6**	*35.1*	*34.2*
Total Supply	**812.8**	**817.8**	**949.2**	**824.9**	**862.7**	**860.1**	*936.7*	*843.6*	*865.5*	*850.7*	*957.4*	*855.4*	**3404.6**	*3503.1*	*3528.9*
Losses and Unaccounted for [f]	**45.6**	**71.2**	**64.2**	**58.6**	**52.0**	**88.9**	*64.1*	*63.4*	*49.6*	*71.5*	*65.8*	*64.2*	**239.5**	*268.3*	*251.1*
Demand															
Electric Utility Sales															
Residential	**263.0**	**223.0**	**313.1**	**244.2**	**290.5**	**235.4**	*295.9*	*249.9*	*291.8*	*239.6*	*307.2*	*256.3*	**1043.3**	*1071.7*	*1094.9*
Commercial	**199.0**	**204.3**	**242.8**	**208.6**	**209.9**	**215.5**	*243.3*	*211.2*	*212.4*	*213.6*	*246.9*	*212.7*	**854.7**	*879.9*	*885.6*
Industrial	**244.1**	**254.7**	**263.1**	**251.2**	**247.7**	**253.9**	*266.7*	*255.9*	*248.2*	*259.1*	*269.9*	*258.4*	**1013.1**	*1024.2*	*1035.6*
Other	**23.8**	**23.3**	**26.1**	**24.3**	**24.6**	**24.2**	*26.2*	*24.4*	*24.6*	*23.9*	*26.2*	*24.4*	**97.5**	*99.4*	*99.1*
Subtotal	**729.8**	**705.3**	**845.2**	**728.3**	**772.7**	**729.1**	*832.0*	*741.4*	*777.1*	*736.3*	*850.2*	*751.7*	**3008.6**	*3075.2*	*3115.2*
Nonutility Gener. for Own Use [b]	**37.3**	**41.3**	**39.8**	**38.0**	**38.1**	**42.1**	*40.6*	*38.8*	*38.8*	*42.9*	*41.4*	*39.5*	**156.5**	*159.6*	*162.7*
Total Demand	**767.2**	**746.6**	**885.0**	**766.3**	**810.7**	**771.2**	*872.6*	*780.2*	*815.9*	*779.2*	*891.6*	*791.2*	**3165.1**	*3234.8*	*3277.9*
Memo:															
Nonutility Sales to Electric Utilities [b]	**51.5**	**57.0**	**55.0**	**52.5**	**56.1**	**62.1**	*59.9*	*57.2*	*59.3*	*65.7*	*63.3*	*60.4*	**216.0**	*235.3*	*248.7*

[a] "Other" includes generation from wind, wood, waste, and solar sources.

[b] Electricity from nonutility sources, including cogenerators and small power producers. Quarterly estimates and projections for nonutility net sales, own use, and generation by fuel source supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1994 and 1995 are estimates.

[c] Includes refinery still gas and other process or waste gases, and liquefied petroleum gases.

[d] Includes geothermal, solar, wind, wood, waste, nuclear, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

[e] Data for 1994 and 1995 are estimates.

[f] Balancing item, mainly transmission and distribution losses.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); *Electric Power Monthly*, DOE/EIA-0226(96/08); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 13. U.S. Renewable Energy Use by Sector: Mid World Oil Price Case

(Quadrillion Btu)

	Year				Annual Percentage Change		
	1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Electric Utilities							
Hydroelectric Power [a]	**2.535**	**3.054**	*3.412*	*2.950*	**20.5**	*11.7*	*-13.5*
Geothermal, Solar and Wind Energy [b]	**0.145**	**0.099**	*0.097*	*0.103*	**-31.7**	*-2.0*	*6.2*
Biofuels [c]	**0.020**	**0.017**	*0.020*	*0.019*	**-15.0**	*17.6*	*-5.0*
Total	**2.700**	**3.170**	*3.528*	*3.073*	**17.4**	*11.3*	*-12.9*
Nonutility Power Generators							
Hydroelectric Power [a]	**0.136**	**0.140**	*0.151*	*0.160*	**2.9**	*7.9*	*6.0*
Geothermal, Solar and Wind Energy [b]	**0.256**	**0.275**	*0.290*	*0.301*	**7.4**	*5.5*	*3.8*
Biofuels [c]	**0.590**	**0.625**	*0.649*	*0.664*	**5.9**	*3.8*	*2.3*
Total	**0.981**	**1.039**	*1.090*	*1.125*	**5.9**	*4.9*	*3.2*
Total Power Generation	**3.681**	**4.209**	*4.619*	*4.198*	**14.3**	*9.7*	*-9.1*
Other Sectors							
Residential and Commercial [d]	**0.610**	**0.607**	*0.622*	*0.623*	**-0.5**	*2.5*	*0.2*
Industrial [e]	**1.561**	**1.587**	*1.594*	*1.653*	**1.7**	*0.4*	*3.7*
Transportation [f]	**0.088**	**0.095**	*0.081*	*0.095*	**8.0**	*-14.7*	*17.3*
Total	**2.259**	**2.289**	*2.297*	*2.371*	**1.3**	*0.3*	*3.2*
Net Imported Electricity [g]	**0.459**	**0.386**	*0.360*	*0.351*	**-15.9**	*-6.7*	*-2.5*
Total Renewable Energy Demand	**6.399**	**6.885**	*7.276*	*6.920*	**7.6**	*5.7*	*-4.9*

[a]Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

[b]Also includes photovoltaic and solar thermal energy.

[c]Biofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

[d]Includes biofuels and solar energy consumed in the residential and commercial sectors.

[e]Consists primarily of biofuels for use other than in electricity cogeneration.

[f]Ethanol blended into gasoline.

[g]Net imports of electricity are included in renewables because they stem principally from hydroelectric power generators in Canada. However, it should be noted that in actuality, only about 77 percent of gross imports of electricity from Canada were attributable to renewable energy sources in 1993, based on statistics from Natural Resources Canada, *Electric Power in Canada 1993* (Ottawa: 1994), p. 89.

(S) Less than 500 billion Btu.

NM indicates percent change calculations are not meaningful or undefined at the precision level of this table.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: 1995: Estimates derived from Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration; Projections: Renewables growth in sectors other than electric utilities taken from Energy Information Administration, *Annual Energy Outlook 1996* database and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Table A1. Annual U.S. Energy Supply and Demand

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Real Gross Domestic Product (GDP) (billion chained 1992 dollars) [a]	**4810**	**5138**	**5330**	**5490**	**5648**	**5863**	**6060**	**6139**	**6079**	**6244**	**6384**	**6604**	**6739**	*6901*	*7039*
Imported Crude Oil Price [b] (nominal dollars per barrel)	**29.30**	**28.88**	**26.99**	**14.00**	**18.13**	**14.57**	**18.08**	**21.75**	**18.70**	**18.20**	**16.14**	**15.52**	**17.15**	*19.90*	*19.18*
Petroleum Supply															
Crude Oil Production [c] (million barrels per day)	**8.69**	**8.88**	**8.97**	**8.68**	**8.35**	**8.14**	**7.61**	**7.36**	**7.42**	**7.17**	**6.85**	**6.66**	**6.56**	*6.47*	*6.32*
Total Petroleum Net Imports (including SPR) (million barrels per day)	**4.31**	**4.72**	**4.29**	**5.44**	**5.91**	**6.59**	**7.20**	**7.16**	**6.63**	**6.94**	**7.62**	**8.05**	**7.89**	*8.50*	*8.88*
Energy Demand															
World Petroleum (million barrels per day)	**20.0**	**59.9**	**60.6**	**62.2**	**63.4**	**65.2**	**66.0**	**66.2**	**66.8**	**66.6**	**66.2**	**68.7**	**70.0**	*71.7*	*73.3*
U.S. Petroleum (million barrels per day)	**15.26**	**15.76**	**15.78**	**16.33**	**16.72**	**17.34**	**17.37**	**17.04**	**16.77**	**17.10**	**17.24**	**17.72**	**17.72**	*18.12*	*18.31*
Natural Gas (trillion cubic feet)	**16.83**	**17.95**	**17.28**	**16.22**	**17.21**	**18.03**	**18.80**	**18.72**	**19.03**	**19.54**	**20.28**	**20.75**	**21.46**	*22.07*	*22.64*
Coal (million short tons)	**737**	**791**	**818**	**804**	**837**	**884**	**891**	**897**	**894**	**902**	**938**	**945**	**959**	*981*	*982*
Electricity (billion kilowatthours)															
Utility Sales [d]	**2151**	**2286**	**2324**	**2369**	**2457**	**2578**	**2647**	**2713**	**2762**	**2763**	**2861**	**2935**	**3009**	*3075*	*3115*
Nonutility Own Use [e]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**108**	**113**	**122**	**132**	**138**	**150**	**156**	*160*	*163*
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**2755**	**2826**	**2884**	**2895**	**2999**	**3085**	**3165**	*3235*	*3278*
Total Energy Demand [f] (quadrillion Btu)	**70.5**	**74.1**	**74.0**	**74.3**	**76.9**	**80.2**	**81.3**	**81.3**	**80.9**	**81.9**	**83.6**	**85.0**	**86.9**	*89.3*	*89.9*
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	**14.66**	**14.43**	**13.88**	**13.53**	**13.61**	**13.68**	**13.42**	**13.24**	**13.31**	**13.11**	**13.10**	**12.87**	**12.90**	*12.95*	*12.77*
Adjusted Total Energy Demand [f] (quadrillion Btu)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**84.1**	**84.0**	**85.2**	**86.9**	**88.5**	**90.4**	*92.9*	*93.5*
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**13.70**	**13.81**	**13.64**	**13.61**	**13.40**	**13.42**	*13.46*	*13.28*

[a]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[b]Refers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

[c]Includes lease condensate.

[d]Total annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

[e]Defined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

[f]"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1995, DOE/EIA-0384(95) Tables 1.1, 1.3 and 2.1. "Adjusted Total Energy Demand" refers to the aggregate energy demand concept reported in the same tables for 1990 and beyond. The former concept is extended here in order to provide a more consistent long-term energy demand series. The latter concept is more comprehensive and is intended as the primary energy demand aggregate for assessing energy intensity trends since 1990. The adjusted measure incorporates information on renewable energy consumption among households, commercial establishments, and electricity generating facilities other than electric utilities (including industrial cogenerators). The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review* (*MER*). Consequently, the historical data may not precisely match that published in the *MER* or the *AER*.

SPR: Strategic Petroleum Reserve.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); *Petroleum Supply Monthly*, DOE/EIA-0109(96/08); *Petroleum Supply Annual 1996*, DOE/EIA-0340(96)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/08); *Electric Power Monthly*, DOE/EIA-0226(96/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/4Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

Table A2. Annual U.S. Macroeconomic and Weather Indicators

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Macroeconomic [a]															
Real Gross Domestic Product (billion chained 1992 dollars)	**4810**	**5138**	**5330**	**5490**	**5648**	**5863**	**6060**	**6139**	**6079**	**6244**	**6384**	**6604**	**6739**	*6901*	*7039*
GDP Implicit Price Deflator (Index, 1992=1.000)	**0.732**	**0.759**	**0.786**	**0.806**	**0.831**	**0.861**	**0.897**	**0.936**	**0.973**	**1.000**	**1.026**	**1.049**	**1.076**	*1.100*	*1.124*
Real Disposable Personal Income (billion chained 1992 Dollars)	**3580**	**3842**	**3959**	**4087**	**4154**	**4318**	**4404**	**4485**	**4486**	**4614**	**4666**	**4776**	**4935**	*5080*	*5218*
Manufacturing Production (Index, 1987=1.000)	**0.809**	**0.893**	**0.916**	**0.943**	**1.000**	**1.047**	**1.064**	**1.061**	**1.038**	**1.083**	**1.125**	**1.198**	**1.240**	*1.278*	*1.326*
Real Fixed Investment (billion chained 1992 dollars)	**654**	**762**	**799**	**805**	**799**	**818**	**832**	**806**	**741**	**783**	**836**	**921**	**977**	*1031*	*1049*
Real Exchange Rate (index)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**1.000**	**1.012**	**1.015**	**1.063**	**1.040**	**0.970**	*1.015*	*1.018*
Business Inventory Change (billion chained 1992 dollars)	**-0.1**	**28.9**	**-4.5**	**-4.2**	**5.1**	**9.5**	**19.2**	**6.6**	**-6.1**	**-9.3**	**5.5**	**8.4**	**11.9**	*8.3*	*7.0*
Producer Price Index (index, 1980-1984=1.000)	**1.012**	**1.037**	**1.032**	**1.002**	**1.028**	**1.069**	**1.122**	**1.163**	**1.165**	**1.172**	**1.189**	**1.205**	**1.248**	*1.273*	*1.281*
Consumer Price Index (index, 1980-1984=1.000)	**0.996**	**1.039**	**1.076**	**1.097**	**1.137**	**1.184**	**1.240**	**1.308**	**1.363**	**1.404**	**1.446**	**1.483**	**1.525**	*1.570*	*1.614*
Petroleum Product Price Index (index, 1980-1984=1.000)	**0.899**	**0.874**	**0.832**	**0.532**	**0.568**	**0.539**	**0.612**	**0.748**	**0.671**	**0.647**	**0.620**	**0.591**	**0.608**	*0.696*	*0.674*
Non-Farm Employment (millions)	**90.1**	**94.4**	**97.4**	**99.3**	**102.0**	**105.2**	**107.9**	**109.4**	**108.3**	**108.6**	**110.7**	**114.2**	**117.2**	*119.5*	*121.4*
Commercial Employment (millions)	**54.9**	**58.0**	**60.8**	**62.9**	**65.2**	**67.8**	**70.0**	**71.3**	**70.8**	**71.2**	**73.2**	**76.1**	**78.8**	*81.2*	*83.0*
Total Industrial Production (index, 1987=1.000)	**0.849**	**0.928**	**0.944**	**0.953**	**1.000**	**1.045**	**1.061**	**1.061**	**1.042**	**1.078**	**1.116**	**1.181**	**1.220**	*1.258*	*1.301*
Housing Stock (millions)	**92.4**	**94.5**	**96.3**	**98.0**	**99.8**	**101.6**	**102.9**	**103.5**	**104.5**	**105.5**	**106.8**	**108.2**	**109.8**	*111.2*	*112.6*
Weather [b]															
Heating Degree-Days															
U.S.	**4627**	**4514**	**4642**	**4295**	**4334**	**4653**	**4726**	**4016**	**4200**	**4441**	**4700**	**4483**	**4562**	*4734*	*4576*
New England	**6305**	**6442**	**6571**	**6517**	**6546**	**6715**	**6887**	**5848**	**5960**	**6844**	**6728**	**6672**	**6596**	*6831*	*6621*
Middle Atlantic	**5733**	**5777**	**5660**	**5665**	**5699**	**6088**	**6134**	**4998**	**5177**	**5964**	**5948**	**5934**	**5826**	*6049*	*5839*
U.S. Gas-Weighted	**4810**	**4704**	**4856**	**4442**	**4391**	**4779**	**4856**	**4139**	**4337**	**4458**	**4754**	**4659**	**4707**	*4921*	*4732*
Cooling Degree-Days (U.S.)	**1260**	**1214**	**1194**	**1249**	**1269**	**1283**	**1156**	**1260**	**1331**	**1040**	**1218**	**1220**	**1279**	*1192*	*1193*

[a]In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

[b]Population-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

Notes: Historical data are printed in bold; forecasts are in italics.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, July 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0896.

Table A3. Annual International Petroleum Supply and Demand Balance

(Millions Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Demand [a]															
OECD															
U.S. (50 States)	**15.5**	**15.8**	**15.8**	**16.3**	**16.7**	**17.3**	**17.4**	**17.0**	**16.8**	**17.1**	**17.2**	**17.7**	**17.7**	*18.1*	*18.3*
Europe [b]	**12.1**	**12.1**	**12.0**	**12.5**	**12.6**	**12.7**	**12.8**	**12.6**	**13.4**	**13.6**	**13.5**	**13.6**	**13.9**	*14.1*	*14.2*
Japan	**4.4**	**4.6**	**4.4**	**4.4**	**4.5**	**4.8**	**5.0**	**5.1**	**5.3**	**5.4**	**5.4**	**5.7**	**5.7**	*5.8*	*5.8*
Other OECD	**2.4**	**2.5**	**2.5**	**2.5**	**2.5**	**2.6**	**2.7**	**2.7**	**2.7**	**2.7**	**2.8**	**2.9**	**3.0**	*3.0*	*3.0*
Total OECD	**34.4**	**34.9**	**34.7**	**35.7**	**36.3**	**37.5**	**37.9**	**37.5**	**38.1**	**38.8**	**39.0**	**39.9**	**40.3**	*41.0*	*41.4*
Non-OECD															
Former Soviet Union	**9.0**	**8.9**	**9.0**	**9.0**	**9.0**	**8.9**	**8.7**	**8.4**	**8.4**	**6.8**	**5.4**	**4.8**	**4.7**	*4.8*	*4.8*
Europe	**1.8**	**1.8**	**2.2**	**2.2**	**2.2**	**2.2**	**2.1**	**2.0**	**1.3**	**1.3**	**1.2**	**1.4**	**1.4**	*1.4*	*1.5*
China	**1.7**	**1.7**	**1.9**	**2.0**	**2.1**	**2.3**	**2.4**	**2.3**	**2.5**	**2.7**	**3.0**	**3.2**	**3.4**	*3.6*	*3.8*
Other Asia	**3.5**	**3.7**	**3.7**	**3.9**	**4.1**	**4.4**	**4.9**	**5.3**	**5.7**	**6.1**	**6.4**	**7.4**	**8.0**	*8.5*	*9.0*
Other Non-OECD	**8.7**	**8.9**	**9.1**	**9.5**	**9.7**	**10.0**	**10.4**	**10.7**	**10.8**	**10.9**	**11.2**	**12.0**	**12.2**	*12.5*	*12.8*
Total Non-OECD	**24.7**	**25.1**	**25.9**	**26.5**	**27.1**	**27.7**	**28.5**	**28.7**	**28.6**	**27.8**	**27.2**	**28.8**	**29.7**	*30.7*	*31.9*
Total World Demand	**59.0**	**59.9**	**60.6**	**62.2**	**63.4**	**65.2**	**66.4**	**66.2**	**66.8**	**66.6**	**66.2**	**68.7**	**70.0**	*71.7*	*73.3*
Supply [c]															
OECD															
U.S. (50 States)	**10.8**	**11.1**	**11.2**	**10.9**	**10.6**	**10.5**	**9.9**	**9.7**	**9.9**	**9.8**	**9.6**	**9.4**	**9.4**	*9.3*	*9.2*
Canada	**1.7**	**1.8**	**1.8**	**1.8**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.1**	**2.2**	**2.3**	**2.4**	*2.4*	*2.4*
North Sea [d]	**3.1**	**3.4**	**3.6**	**3.8**	**3.8**	**3.8**	**3.7**	**3.9**	**4.0**	**4.3**	**4.6**	**5.4**	**5.8**	*6.3*	*6.7*
Other OECD	**1.2**	**1.3**	**1.4**	**1.3**	**1.4**	**1.4**	**1.3**	**1.5**	**1.5**	**1.5**	**1.3**	**1.5**	**1.6**	*1.5*	*1.5*
Total OECD	**16.8**	**17.6**	**18.0**	**17.9**	**17.8**	**17.7**	**17.0**	**17.0**	**17.5**	**17.8**	**17.8**	**18.6**	**19.2**	*19.6*	*19.9*
Non-OECD															
OPEC	**18.4**	**18.4**	**17.2**	**19.3**	**19.6**	**21.5**	**23.5**	**24.2**	**24.7**	**25.9**	**26.9**	**27.2**	**27.6**	*28.1*	*28.8*
Former Soviet Union	**12.3**	**12.2**	**11.9**	**12.3**	**12.5**	**12.5**	**12.1**	**11.4**	**10.4**	**8.9**	**8.1**	**7.0**	**7.0**	*7.1*	*7.2*
China	**2.1**	**2.3**	**2.5**	**2.6**	**2.7**	**2.7**	**2.8**	**2.8**	**2.8**	**2.8**	**2.9**	**2.9**	**3.0**	*3.1*	*3.2*
Mexico	**3.0**	**3.1**	**3.0**	**2.8**	**2.9**	**2.9**	**2.9**	**3.0**	**3.2**	**3.2**	**3.2**	**3.2**	**3.1**	*3.4*	*3.5*
Other Non-OECD	**5.5**	**10.4**	**6.6**	**6.8**	**6.9**	**7.4**	**7.5**	**7.7**	**8.1**	**8.4**	**8.7**	**9.1**	**9.9**	*10.2*	*10.6*
Total Non-OECD	**41.3**	**42.0**	**41.2**	**43.9**	**44.6**	**47.0**	**48.9**	**49.4**	**49.2**	**49.2**	**49.8**	**49.4**	**50.6**	*51.9*	*53.2*
Total World Supply	**58.1**	**59.6**	**59.3**	**61.8**	**62.4**	**64.7**	**65.9**	**66.4**	**66.7**	**66.9**	**67.6**	**68.0**	**69.8**	*71.5*	*73.1*
Total Stock Withdrawals	**0.4**	**-0.2**	**0.3**	**-0.9**	**-0.1**	**-0.4**	**-0.2**	**-0.2**	**0.1**	**-0.3**	**-1.4**	**0.7**	**0.2**	*0.2*	*0.1*
Closing Stocks, OECD only (bilion barrels)	**2.7**	**2.7**	**2.6**	**2.7**	**2.7**	**2.6**	**2.6**	**2.7**	**2.7**	**2.7**	**2.8**	**2.8**	**2.7**	*2.7*	*2.8*
Net Exports from Former Soviet Union	**3.4**	**3.3**	**3.0**	**3.4**	**3.5**	**3.6**	**3.4**	**3.0**	**2.1**	**2.1**	**2.7**	**2.2**	**2.2**	*2.3*	*2.4*

[a]Demand for petroleum by the OECD countries is synonymous with "petroleum product supplied" which is defined in the glossary of the EIA *Petroleum Supply Monthly,* DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption" which includes internal consumption, refinery fuel and loss, and bunkering.

[b]OECD Europe includes the former East Germany.

[c]Includes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

[d]Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member but OECD data does not yet include Mexico.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(95/08); and *International Energy Annual 1995*, DOE/EIA-0219(95); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, July 1996.

Table A4. Annual Average U.S. Energy Prices

(Nominal Dollars)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Imported Crude Oil [a] (dollars per barrel)	29.30	28.88	26.99	14.00	18.13	14.57	18.08	21.75	18.70	18.20	16.14	15.52	17.15	*19.90*	*19.18*
Natural Gas Wellhead (dollars per thousand cubic feet)	2.59	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.88	1.59	*2.07*	*1.85*
Petroleum Product															
Gasoline Retail [b] (dollars per gallon)	1.22	1.20	1.20	0.93	0.96	0.96	1.06	1.22	1.20	1.19	1.17	1.17	1.21	*1.29*	*1.28*
No. 2 Diesel Oil, Retail (dollars per gallon)	1.13	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.10	*1.22*	*1.20*
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.81	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	*0.62*	*0.60*
No. 2 Heating Oil, Retail (dollars per gallon)	NA	1.09	1.05	0.84	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.87	*0.98*	*0.99*
No. 6 Residual Fuel Oil, Retail [c] (dollars per barrel)	27.33	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.49	*18.75*	*17.75*
Electric Utility Fuel															
Coal (dollars per million Btu)	1.65	1.66	1.65	1.58	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	*1.29*	*1.28*
Heavy Fuel Oil [d] (dollars per million Btu)	4.57	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.60	*3.00*	*2.86*
Natural Gas (dollars per million Btu)	3.47	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.98	*2.57*	*2.37*
Other Residential															
Natural Gas (dollars per thousand cubic feet)	6.04	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.05	*6.25*	*6.12*
Electricity (cents per kilowatthour)	7.2	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	*8.4*	*8.3*

[a]Cost of imported crude oil to U.S.
[b]Average for all grades and services.
[c]Average for all sulfur contents.
[d]Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the third quarter of 1996. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/08).

Table A5. Annual U.S. Petroleum Supply and Demand

(Million Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production [a]	**8.69**	**8.88**	**8.97**	**8.68**	**8.35**	**8.14**	**7.61**	**7.36**	**7.42**	**7.17**	**6.85**	**6.66**	**6.56**	*6.47*	*6.32*
Alaska	**1.71**	**1.72**	**1.83**	**1.87**	**1.96**	**2.02**	**1.87**	**1.77**	**1.80**	**1.71**	**1.58**	**1.56**	**1.48**	*1.39*	*1.29*
Lower 48	**6.97**	**7.16**	**7.15**	**6.81**	**6.39**	**6.12**	**5.74**	**5.58**	**5.62**	**5.46**	**5.26**	**5.10**	**5.08**	*5.08*	*5.03*
Net Imports (including SPR) [b]	**3.17**	**3.25**	**3.00**	**4.02**	**4.52**	**4.95**	**5.70**	**5.79**	**5.67**	**5.99**	**6.69**	**6.96**	**7.14**	*7.42*	*7.83*
Other SPR Supply	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	*0.00*	*0.00*
Stock Draw (Including SPR)	**-0.22**	**-0.20**	**-0.05**	**-0.08**	**-0.12**	**0.00**	**-0.09**	**0.02**	**-0.01**	**0.01**	**-0.06**	**-0.02**	**0.09**	*-0.04*	*-0.02*
Product Supplied and Losses	**-0.07**	**-0.07**	**-0.06**	**-0.05**	**-0.03**	**-0.04**	**-0.03**	**-0.02**	**-0.02**	**-0.01**	**-0.01**	**-0.01**	**-0.01**	*-0.01*	*-0.01*
Unaccounted-for Crude Oil	**0.11**	**0.18**	**0.15**	**0.14**	**0.14**	**0.20**	**0.20**	**0.26**	**0.20**	**0.26**	**0.17**	**0.27**	**0.19**	*0.24*	*0.27*
Total Crude Oil Supply	**11.69**	**12.04**	**12.00**	**12.72**	**12.85**	**13.25**	**13.40**	**13.41**	**13.30**	**13.41**	**13.61**	**13.87**	**13.97**	*14.12*	*14.40*
Other Supply															
NGL Production	**1.56**	**1.63**	**1.61**	**1.55**	**1.59**	**1.62**	**1.55**	**1.56**	**1.66**	**1.70**	**1.74**	**1.73**	**1.76**	*1.77*	*1.79*
Other Hydrocarbon and Alcohol Inputs	**0.08**	**0.08**	**0.11**	**0.11**	**0.12**	**0.11**	**0.11**	**0.13**	**0.15**	**0.20**	**0.25**	**0.26**	**0.30**	*0.29*	*0.32*
Crude Oil Product Supplied	**0.07**	**0.06**	**0.06**	**0.05**	**0.03**	**0.04**	**0.03**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*
Processing Gain	**0.49**	**0.55**	**0.56**	**0.62**	**0.64**	**0.66**	**0.66**	**0.70**	**0.71**	**0.77**	**0.76**	**0.77**	**0.77**	*0.81*	*0.80*
Net Product Imports [c]	**1.15**	**1.47**	**1.29**	**1.41**	**1.39**	**1.63**	**1.50**	**1.38**	**0.96**	**0.94**	**0.93**	**1.09**	**0.75**	*1.08*	*1.06*
Product Stock Withdrawn or Added (-) [d]	**0.15**	**-0.08**	**0.15**	**-0.12**	**0.09**	**0.03**	**0.13**	**-0.14**	**-0.04**	**0.06**	**-0.05**	**0.00**	**0.15**	*0.04*	*-0.06*
Total Supply	**15.18**	**15.76**	**15.78**	**16.33**	**16.72**	**17.33**	**17.37**	**17.05**	**16.76**	**17.10**	**17.25**	**17.72**	**17.72**	*18.12*	*18.31*
Demand															
Motor Gasoline [e]	**6.58**	**6.69**	**6.78**	**6.94**	**7.19**	**7.36**	**7.40**	**7.31**	**7.23**	**7.38**	**7.48**	**7.60**	**7.79**	*7.87*	*8.08*
Jet Fuel	**1.05**	**1.18**	**1.22**	**1.31**	**1.38**	**1.45**	**1.49**	**1.52**	**1.47**	**1.45**	**1.47**	**1.53**	**1.51**	*1.57*	*1.59*
Distillate Fuel Oil	**2.69**	**2.84**	**2.87**	**2.91**	**2.98**	**3.12**	**3.16**	**3.02**	**2.92**	**2.98**	**3.04**	**3.16**	**3.21**	*3.32*	*3.34*
Residual Fuel Oil	**1.42**	**1.37**	**1.20**	**1.42**	**1.26**	**1.38**	**1.37**	**1.23**	**1.16**	**1.09**	**1.08**	**1.02**	**0.85**	*0.85*	*0.87*
Other Oils [e], FFF	**3.53**	**3.68**	**3.71**	**3.75**	**3.90**	**4.03**	**3.95**	**3.95**	**3.99**	**4.20**	**4.17**	**4.41**	**4.36**	*4.50*	*4.43*
Total Demand [e]	**15.26**	**15.76**	**15.78**	**16.33**	**16.72**	**17.34**	**17.37**	**17.04**	**16.77**	**17.10**	**17.24**	**17.72**	**17.72**	*18.12*	*18.31*
Total Petroleum Net Imports	**4.31**	**4.72**	**4.29**	**5.44**	**5.91**	**6.59**	**7.20**	**7.16**	**6.63**	**6.94**	**7.62**	**8.05**	**7.89**	*8.50*	*8.88*
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) [g]	**344**	**345**	**321**	**331**	**349**	**330**	**341**	**323**	**325**	**318**	**335**	**337**	**303**	*317*	*323*
Total Motor Gasoline	**222**	**243**	**223**	**233**	**226**	**228**	**213**	**220**	**219**	**216**	**226**	**215**	**202**	*204*	*206*
Jet Fuel	**39**	**42**	**40**	**50**	**50**	**44**	**41**	**52**	**49**	**43**	**40**	**47**	**40**	*40*	*43*
Distillate Fuel Oil	**140**	**161**	**144**	**155**	**134**	**124**	**106**	**132**	**144**	**141**	**141**	**145**	**130**	*124*	*125*
Residual Fuel Oil	**49**	**53**	**50**	**47**	**47**	**45**	**44**	**49**	**50**	**43**	**44**	**42**	**37**	*37*	*39*
Other Oils [h]	**281**	**261**	**247**	**265**	**260**	**267**	**257**	**261**	**267**	**263**	**273**	**275**	**258**	*247*	*263*

[a] Includes lease condensate.
[b] Net imports equals gross imports plus SPR imports minus exports.
[c] Includes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.
[d] Includes an estimate of minor product stock changes based on monthly data.
[e] For years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, Short-Term Energy Outlook, EIA/DOE-0202(93/3Q), for details on this adjustment.
[f] Includes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.
[g] Includes crude oil in transit to refineries.
[h] Includes stocks of all other oils, such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve
NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/08); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table A6. Annual U.S. Natural Gas Supply and Demand
(Trillion Cubic Feet)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Total Dry Gas Production [a]	**16.09**	**17.47**	**16.45**	**16.06**	**16.62**	**17.10**	**17.31**	**17.81**	**17.70**	**17.84**	**18.10**	**18.75**	**18.46**	*19.08*	*19.70*
Net Imports	**0.86**	**0.79**	**0.89**	**0.69**	**0.94**	**1.22**	**1.27**	**1.45**	**1.64**	**1.92**	**2.21**	**2.46**	**2.69**	*2.82*	*2.96*
Supplemental Gaseous Fuels	**0.13**	**0.11**	**0.13**	**0.11**	**0.10**	**0.10**	**0.11**	**0.12**	**0.11**	**0.12**	**0.12**	**0.11**	**0.13**	*0.13*	*0.13*
Total New Supply	**17.09**	**18.36**	**17.47**	**16.86**	**17.66**	**18.42**	**18.69**	**19.38**	**19.45**	**19.88**	**20.42**	**21.32**	**21.28**	*22.03*	*22.80*
Underground Working Gas Storage															
Opening	**6.88**	**6.44**	**6.71**	**6.45**	**6.57**	**6.55**	**6.65**	**6.33**	**6.94**	**6.78**	**6.64**	**6.65**	**6.97**	*6.49*	*6.33*
Closing	**6.44**	**6.71**	**6.45**	**6.57**	**6.55**	**6.65**	**6.33**	**6.94**	**6.78**	**6.64**	**6.65**	**6.97**	**6.49**	*6.33*	*6.31*
Net Withdrawals	**0.44**	**-0.26**	**0.26**	**-0.12**	**0.02**	**-0.10**	**0.33**	**-0.61**	**0.16**	**0.14**	**-0.01**	**-0.32**	**0.47**	*0.16*	*0.03*
Total Supply [a]	**17.53**	**18.10**	**17.73**	**16.74**	**17.68**	**18.32**	**19.02**	**18.77**	**19.61**	**20.02**	**20.42**	**21.00**	**21.76**	*22.19*	*22.82*
Balancing Item [b]	**-0.69**	**-0.15**	**-0.45**	**-0.52**	**-0.47**	**-0.29**	**-0.22**	**-0.05**	**-0.58**	**-0.47**	**-0.14**	**-0.25**	**-0.30**	*-0.12*	*-0.18*
Total Primary Supply [a]	**16.83**	**17.95**	**17.28**	**16.22**	**17.21**	**18.03**	**18.80**	**18.72**	**19.03**	**19.54**	**20.28**	**20.75**	**21.46**	*22.07*	*22.64*
Demand															
Lease and Plant Fuel	**0.98**	**1.08**	**0.97**	**0.92**	**1.15**	**1.10**	**1.07**	**1.24**	**1.13**	**1.17**	**1.17**	**1.16**	**1.14**	*1.18*	*1.21*
Pipeline Use	**0.49**	**0.53**	**0.50**	**0.49**	**0.52**	**0.61**	**0.63**	**0.66**	**0.60**	**0.59**	**0.62**	**0.69**	**0.70**	*0.72*	*0.73*
Residential	**4.38**	**4.56**	**4.43**	**4.31**	**4.31**	**4.63**	**4.78**	**4.39**	**4.56**	**4.69**	**4.96**	**4.85**	**4.87**	*5.20*	*5.09*
Commercial	**2.43**	**2.52**	**2.43**	**2.32**	**2.43**	**2.67**	**2.72**	**2.62**	**2.73**	**2.80**	**2.86**	**2.90**	**3.03**	*3.26*	*3.24*
Industrial (Incl. Nonutilities)	**5.64**	**6.15**	**5.90**	**5.58**	**5.95**	**6.38**	**6.82**	**7.02**	**7.23**	**7.53**	**7.98**	**8.18**	**8.52**	*8.66*	*8.91*
Cogenerators [c]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**1.12**	**1.30**	**1.41**	**1.67**	**1.80**	**1.98**	**2.06**	*2.16*	*2.26*
Other Nonutil. Gen. [c]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.06**	**0.09**	**0.16**	**0.18**	**0.22**	**0.17**	**0.19**	*0.20*	*0.21*
Electric Utilities	**2.91**	**3.11**	**3.04**	**2.60**	**2.84**	**2.64**	**2.79**	**2.79**	**2.79**	**2.77**	**2.68**	**2.99**	**3.20**	*3.01*	*3.46*
Total Demand	**16.83**	**17.95**	**17.28**	**16.22**	**17.21**	**18.03**	**18.80**	**18.72**	**19.03**	**19.54**	**20.28**	**20.75**	**21.46**	*22.07*	*22.64*

[a]Excludes nonhydrocarbon gases removed.

[b]The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

[c]Nonutility gas consumption data and projections provided by the office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/05); *Natural Gas Monthly*, DOE/EIA-0130(96/05); *Electric Power Monthly*, DOE/EIA-0226(96/08); Form EIA-867, "Annual Nonutility Power Producer Report."

Table A7. Annual U.S. Coal Supply and Demand

(Million Short Tons)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Production	**782.1**	**895.9**	**883.6**	**890.3**	**918.8**	**950.3**	**980.7**	**1029.1**	**996.0**	**997.5**	**945.4**	**1033.5**	**1033.0**	*1049.3*	*1065.2*
Appalachia	**382.7**	**444.1**	**424.7**	**428.3**	**443.1**	**449.3**	**464.8**	**489.0**	**457.8**	**456.6**	**409.7**	**445.4**	**434.9**	*437.1*	*433.4*
Interior	**173.5**	**198.3**	**188.8**	**196.6**	**201.8**	**193.2**	**198.1**	**205.8**	**195.4**	**195.7**	**167.2**	**179.9**	**168.5**	*166.7*	*161.8*
Western	**225.8**	**253.5**	**270.1**	**265.3**	**273.9**	**307.8**	**317.9**	**334.3**	**342.8**	**345.3**	**368.5**	**408.3**	**429.6**	*445.6*	*469.9*
Primary Stock Levels [a]															
Opening	**36.8**	**33.9**	**34.1**	**33.1**	**32.1**	**28.3**	**30.4**	**29.0**	**33.4**	**33.0**	**34.0**	**25.3**	**33.2**	*34.4*	*32.5*
Closing	**33.9**	**34.1**	**33.1**	**32.1**	**28.3**	**30.4**	**29.0**	**33.4**	**33.0**	**34.0**	**25.3**	**33.2**	**34.4**	*32.5*	*32.0*
Net Withdrawals	**2.9**	**-0.2**	**1.0**	**1.0**	**3.8**	**-2.1**	**1.4**	**-4.4**	**0.4**	**-1.0**	**8.7**	**-7.9**	**-1.2**	*1.9*	*0.5*
Imports	**1.3**	**1.3**	**2.0**	**2.2**	**1.7**	**2.1**	**2.9**	**2.7**	**3.4**	**3.8**	**7.3**	**7.6**	**7.2**	*7.0*	*7.5*
Exports	**77.8**	**81.5**	**92.7**	**85.5**	**79.6**	**95.0**	**100.8**	**105.8**	**109.0**	**102.5**	**74.5**	**71.4**	**88.5**	*89.5*	*91.9*
Total Net Domestic Supply	**708.4**	**815.6**	**793.9**	**808.0**	**844.7**	**855.3**	**884.2**	**921.6**	**890.9**	**897.8**	**886.9**	**961.8**	**950.4**	*968.8*	*981.4*
Secondary Stock Levels [b]															
Opening	**195.3**	**168.7**	**197.2**	**170.2**	**175.2**	**185.5**	**158.4**	**146.1**	**168.2**	**167.7**	**163.7**	**120.5**	**136.1**	*134.6*	*123.0*
Closing	**168.7**	**197.2**	**170.2**	**175.2**	**185.5**	**158.4**	**146.1**	**168.2**	**167.7**	**163.7**	**120.5**	**136.1**	**134.6**	*123.0*	*122.9*
Net Withdrawals	**26.6**	**-28.6**	**27.0**	**-5.0**	**-10.2**	**27.0**	**12.3**	**-22.1**	**0.5**	**4.0**	**43.2**	**-15.7**	**1.5**	*11.6*	*0.2*
Total Supply	**735.0**	**787.0**	**820.8**	**803.1**	**834.4**	**882.3**	**896.5**	**899.4**	**891.4**	**901.8**	**930.2**	**946.1**	**951.9**	*980.4*	*981.5*
Demand															
Coke Plants	**37.0**	**44.0**	**41.1**	**35.9**	**37.0**	**41.9**	**40.5**	**38.9**	**33.9**	**32.4**	**31.3**	**31.7**	**33.0**	*32.7*	*33.0*
Electricity Production															
Electric Utilities	**625.2**	**664.4**	**693.8**	**685.1**	**717.9**	**758.4**	**766.9**	**773.5**	**772.3**	**779.9**	**813.5**	**817.3**	**829.0**	*850.2*	*849.5*
Nonutilities (Excl. Cogen.)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.9**	**1.6**	**6.0**	**10.0**	**12.3**	**15.1**	**18.0**	*20.0*	*22.0*
Retail and General Industry [c]	**74.4**	**82.9**	**83.2**	**83.3**	**82.1**	**83.4**	**82.3**	**83.1**	**81.5**	**80.2**	**81.1**	**81.2**	**78.6**	*78.5*	*77.0*
Total Demand [d]	**736.7**	**791.3**	**818.0**	**804.2**	**836.9**	**883.6**	**890.6**	**897.1**	**893.6**	**902.4**	**938.3**	**945.3**	**958.6**	*981.4*	*981.5*
Discrepancy [e]	**-1.6**	**-4.3**	**2.8**	**-1.2**	**-2.5**	**-1.3**	**5.9**	**2.3**	**-2.3**	**-0.6**	**-8.1**	**0.8**	**-6.7**	*-1.0*	*S*

[a]Primary stocks are held at the mines, preparation plants, and distribution points.

[b]Secondary stocks are held by users.

[c]Synfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, and 1996.

[d]Total excludes any shipments to independent power producers not calculated in Retail and General Industry for years prior to 1993.

[e]Historical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference, plus any shipment to independent power producers not captured in Retail and General Industry.

(S) indicates amounts of less than 50,000 tons.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); and *Quarterly Coal Report*, DOE/EIA-0121(95/4Q), and Form EIA-867, "Annual Nonutility Power Producer Report."

Table A8. Annual U.S. Electricity Supply and Demand

(Billion Kilowatthours)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Net Utility Generation															
Coal	**1259.4**	**1341.7**	**1402.1**	**1385.8**	**1463.8**	**1540.7**	**1553.7**	**1559.6**	**1551.2**	**1575.9**	**1639.2**	**1635.5**	**1652.9**	*1689.0*	*1702.8*
Petroleum	**144.5**	**119.8**	**100.2**	**136.6**	**118.5**	**148.9**	**158.3**	**117.0**	**111.5**	**88.9**	**99.5**	**91.0**	**60.8**	*68.6*	*68.5*
Natural Gas	**274.1**	**297.4**	**291.9**	**248.5**	**272.6**	**252.8**	**266.6**	**264.1**	**264.2**	**263.9**	**258.9**	**291.1**	**307.3**	*285.8*	*325.0*
Nuclear	**293.7**	**327.6**	**383.7**	**414.0**	**455.3**	**527.0**	**529.4**	**576.9**	**612.6**	**618.8**	**610.3**	**640.4**	**673.4**	*695.2*	*696.5*
Hydroelectric	**332.1**	**321.2**	**281.1**	**290.8**	**249.7**	**222.9**	**265.1**	**279.9**	**275.5**	**239.6**	**265.1**	**243.7**	**293.7**	*328.0*	*283.7*
Geothermal and Other [a]	**6.5**	**8.6**	**10.7**	**11.5**	**12.3**	**12.0**	**11.3**	**10.7**	**10.1**	**10.2**	**9.6**	**8.9**	**6.4**	*6.6*	*6.8*
Subtotal	**2310.3**	**2416.3**	**2469.8**	**2487.3**	**2572.1**	**2704.3**	**2784.3**	**2808.2**	**2825.0**	**2797.2**	**2882.5**	**2910.7**	**2994.5**	*3073.2*	*3083.3*
Nonutility Generation [b]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**191.3**	**221.8**	**253.7**	**296.0**	**325.2**	**354.9**	**372.5**	*394.9*	*411.4*
Total Generation	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**2975.6**	**3030.0**	**3078.7**	**3093.2**	**3207.8**	**3265.6**	**3367.0**	*3468.1*	*3494.8*
Net Imports	**35.3**	**39.7**	**40.9**	**35.9**	**46.3**	**31.8**	**11.0**	**2.0**	**22.3**	**28.3**	**28.4**	**44.6**	**37.6**	*35.1*	*34.2*
Total Supply	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**2986.6**	**3032.0**	**3101.0**	**3121.6**	**3236.2**	**3310.3**	**3404.6**	*3503.1*	*3528.9*
Losses and Unaccounted for [c]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**231.4**	**206.1**	**217.1**	**226.6**	**236.9**	**225.5**	**239.5**	*268.3*	*251.1*
Demand															
Electric Utility Sales															
Residential	**750.9**	**780.1**	**793.9**	**819.1**	**850.4**	**892.9**	**905.5**	**924.0**	**955.4**	**935.9**	**994.8**	**1008.5**	**1043.3**	*1071.7*	*1094.9*
Commercial	**543.8**	**582.6**	**606.0**	**630.5**	**660.4**	**699.1**	**725.9**	**751.0**	**765.7**	**761.3**	**794.6**	**820.3**	**854.7**	*879.9*	*885.6*
Industrial	**776.0**	**837.8**	**836.8**	**830.5**	**858.2**	**896.5**	**925.7**	**945.5**	**946.6**	**972.7**	**977.2**	**1008.0**	**1013.1**	*1024.2*	*1035.6*
Other	**80.2**	**85.2**	**87.3**	**88.6**	**88.2**	**89.6**	**89.8**	**92.0**	**94.3**	**93.4**	**94.9**	**97.8**	**97.5**	*99.4*	*99.1*
Subtotal	**2151.0**	**2285.8**	**2324.0**	**2368.8**	**2457.3**	**2578.1**	**2646.8**	**2712.6**	**2762.0**	**2763.4**	**2861.5**	**2934.6**	**3008.6**	*3075.2*	*3115.2*
Nonutility Own Use [b]	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**108.4**	**113.4**	**121.9**	**131.6**	**137.8**	**150.2**	**156.5**	*159.6*	*162.7*
Total Demand	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**2755.2**	**2825.9**	**2883.9**	**2895.0**	**2999.3**	**3084.8**	**3165.1**	*3234.8*	*3277.9*
Memo:															
Nonutility Sales to Electric Utilities [d]	**13.0**	**18.0**	**26.0**	**39.9**	**50.0**	**68.0**	**83.0**	**108.5**	**131.9**	**164.4**	**187.4**	**204.7**	**216.0**	*235.3*	*248.7*

[a]Other includes generation from wind, wood, waste, and solar sources.

[b]For 1989 to 1991, estimates for nonutility generation are estimates made by the Energy Markets and Contingency Information Division, based on Form EIA-867 data. History and Projections for the same items are from the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration, based on Form EIA-867 data.

[c]Balancing item, mainly transmission and distribution losses.

[d]Historical data for nonutility sales to electric utilities is from the Energy Information Administration, *Annual Energy Review*, DOE/EIA-0389, Table 8.1, for 1982 to 1988; from Form EIA-867 for 1989 to 1993.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/08); *Electric Power Monthly*, DOE/EIA-0226(96/09); Form EIA-867 ("Annual Nonutility Power Producer Report"), Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Text References and Notes

International Oil Demand

[1]"Other Asia" includes: Afghanistan, American Samoa, Bangladesh, Bhutan, Brunei, Burma, Cambodia, Cook Islands, Fiji, French Polynesia, Hong Kong, India, Indonesia, Kiribati, North Korea, South Korea, Laos, Macau, Malaysia, Maldives, Mongolia, Nauru, Nepal, New Caledonia, Niue, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, U.S. Pacific Islands, Vanuatu, Vietnam, Wake Island, Western Samoa.

[2]Latin America is defined as including all of the countries of Central and South America, plus Mexico, but excluding Puerto Rico and the U.S. Virgin Islands.

[3]Energy Information Administration, Energy Markets and Contingency Information Division.

International Oil Supply

[4]Energy Information Administration, Energy Markets and Contingency Information Division.

World Oil Stocks and Net Trade

[5]Energy Information Administration, Energy Markets and Contingency Information Division.

[6]Energy Information Administration, Energy Markets and Contingency Information Division.

U.S. Oil Supply

[7]Energy Information Administration, Energy Markets and Contingency Information Division.

[8]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

[9]Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

[10]Drilling rig projections provided by the Energy Information Administration, Reserves and Natural Gas Division.

U.S. Energy Prices

[11]Energy Information Administration, *Monthly Energy Review*, DOE/EIA--0035(96/02), Table 9.10.

U.S. Natural Gas Demand

[12]Energy Information Administration, *Historical Monthly Energy Review 1973-1992*, DOE/EIA-0035(73-92), Table 4.2.

U.S. Natural Gas Supply

[13]Energy Information Administration, *Natural Gas Monthly*, June 1996, p. 6.

[14]Energy Information Administration, Office of Oil and Gas, *Natural Gas Weekly Market Update*, June 24, 1996.

[15]*Natural Gas Week*, September 2, 1996, p. 13.

[16]*Canadian Gas Exports in the U.S. Market: 1995 Evaluation & Outlook*, March 1996, Natural Resources Canada, Natural Gas Division, p. 10.

U.S. Coal Demand and Supply

[17]Total raw steel production was 102.9 million short tons in 1995. Coal-based steel production was 62.3 million short tons and electric-arc production was 40.6 million short tons. Source: American Iron and Steel Institute.

[18]The States in the Appalachian region are: Alabama, Georgia, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. The Interior region is composed of: Arkansas, Illinois, Indiana, Iowa, Kansas, Western Kentucky, Louisiana, Missouri, Oklahoma, and Texas. The Western region states are: Alaska, Arizona, California, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming.

U.S. Electricity Demand and Supply

[19]Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Figure References

The following is a list of references for the figures appearing in this issue of the *Short-Term Energy Outlook*. Except where noted, all data for figures are taken from datasets containing monthly values of each variable depicted, aggregated to quarterly or annual values as required and using appropriate weights. The datasets are created by particular runs of the Short-Term Integrated Forecasting System (STIFS) Model, depending on the scenario or set of scenarios depicted. Also, except when noted, all figures refer to the base or "BBB" case. Other cases referred to are: the high world oil price, "BHB"; low world oil price, "BLB"; severe weather, "BBL"; mild weather, "BBS"; strong economic growth, "HBB"; weak economic growth, "LBB"; weak economic growth with high world oil prices, "WHB"; and strong economic growth with low world oil prices, "PLB."

1. **History:** Import cost: Compiled from monthly data for the refiner acquisition cost of imported crude oil used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; West Texas Intermediate spot price, *Oil and Gas Journal* Database, February 6, 1995. **Projections:** Fourth quarter 1996 STIFS database, BBB, BLB, and BHB cases; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

2. **History:** Manufacturing Production: Federal Reserve System, Statistical Release G 17; GDP: U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.* **Projections:** DRI/McGraw-Hill Forecast CONTROL0896, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.

3. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

4. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

5. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

6. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

7. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

8. Fourth quarter 1996 STIFS database, case BBB; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

9. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8, for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

10. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8, for historical series; for recent values, *International*

Petroleum Statistics Report, DOE/EIA-0520, Table 2.4; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

11. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1, for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

12. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2, for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

13. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2, for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

14. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1, for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

15. **History:** Compiled from annual data used in publication of Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035, Table 10.3, for historical series and recent data. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

16. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 1; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.

17. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Tables S4 through S10; *Petroleum Supply Monthly*, DOE/EIA-0109, Tables S4 through S10, adjusted in years prior to 1993 for new (1993) reporting basis for fuel ethanol blended into motor gasoline (See *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B). **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

18. **History:** Gasoline Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4, for historical series,

Figure References

adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

19. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Fourth quarter 1996 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.

20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, and *Natural Gas Monthly*, DOE/EIA-0130, Table 4, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1. **Projections:** Fourth quarter 1996 STIFS database.

22. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Tables 2, 4, and 15, for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Tables 2, 4 and 15. **Projections:** Fourth quarter 1996 STIFS database.

23. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, December 26, 1995, p. 6. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

24. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

25. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Fourth quarter 1996 STIFS database, cases "BBB," "BBS," and "BBL."

26. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1, for historical series adjusted for 1993 reporting basis (see note 11 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Fourth quarter 1996 STIFS database, cases "BBB," "HBB," and "LBB."

27. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Fourth quarter 1996 database, case "BBB."

28. **History:** Nonutility Generators, 1989-1993: Energy Information Administration, Form EIA-867 (1993); other volumes compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Nonutility Generators:

Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: Fourth quarter 1996 STIFS database, case "BBB."

29. **History:** Production and net imports of natural gas compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual*, *Volume 2*, DOE/EIA-0131/2, Table 2, for historical series; for recent production data, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

30. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual*, *Volume 2*, DOE/EIA-0131, Table 3, for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

31. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 45. **Projections:** Fourth quarter 1996 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."

32. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 1. **Projections:** Fourth quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

33. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 51. **Projections:** Fourth quarter 1996 STIFS database, case "BBB."

34. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly* , DOE/EIA-0226, Table 3, and Form EIA-759. **Projections:** Fourth quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.

35. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Third quarter 1996 STIFS database; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Fourth quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

36. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Fourth quarter 1996 STIFS database; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Fourth quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Appendix

Computation of Petroleum Demand Sensitivities

Table 8 summarizes the response of forecasts of U.S. total petroleum demand to changes in assumptions for economic growth, world crude oil prices, and weather. The values in this table are computed by using the Short-Term Integrated Forecasting Model (STIFS). The STIFS model is documented in EIA's *Short-Term Integrated Forecasting System: 1993 Model Documentation Report* (DOE/EIA-M041, May 1993). The purpose of the model is to generate forecasts of U.S. energy supply, demand, and prices. Key inputs include assumptions for the imported price of crude oil, the rate of U.S. economic growth, and weather (cooling and heating degree-days). Forecasts are generated for production, imports, exports, demand, and prices for refined petroleum products, natural gas, coal, and electricity.

A key relationship between petroleum demand and economic activity is shown in Table 8. Gross domestic product (GDP) is varied from low to high for each of the 2 projection years, and the resulting change in petroleum demand is calculated. For each of the 2 years, the percentage difference in GDP is computed as the difference between the low and high case levels shown in Table 8, divided by the midpoint of this range. Thus, the percentage difference in GDP for 1996 is as follows: (6982 - 6950) / ((6982 + 6950) / 2), or 0.5 percent. For each period, the petroleum demand difference (in million barrels per day) is divided by the percentage difference in GDP. For 1996, the average petroleum demand difference is 44,000 barrels per day; thus, a 1-percent change in GDP corresponds to a change in demand of (44,000/0.5), or 88,000 barrels per day. For 1997, a 3.1-percent change in GDP corresponds to a change in demand of 351,000 barrels per day; thus, a 1-percent change in GDP corresponds to a demand change of 113,000 barrels per day. The average of the 1996 and 1997 results (weighting the 1996 results by 92 days and the 1997 results by 365 days) is 108,000 barrels per day per 1 percent difference in GDP. Table 8 also shows the differences in petroleum demand due to changes in energy prices caused by varying the world crude oil price. The change in petroleum demand (in million barrels per day) is divided by the change in the crude oil price (in dollars per barrel), and the result is averaged over the two projection years to get an estimate of the change in petroleum demand per dollar of change in the crude oil price.

The influence of weather on petroleum demand is also calculated; the mid-case values for economic activity and imported crude oil prices are used. The percentage changes in heating or cooling degree-days are computed and divided by the changes in petroleum demand, and the result is averaged over the two projection periods to get an estimate of the change in petroleum demand per 1-percent change in heating and cooling degree-days. The changes in demand due to changes in heating degree-days apply only to the heating season, roughly the first and fourth quarters of the year, while the changes in demand due to changes in cooling degree-days apply only to the cooling season, roughly the second and third quarters of the year.